

May 26, 2010

Office of Highway Policy Information  
Federal Highway Administration  
400 Seventh Street, S.W.  
Washington, D.C. 20590  
Attention: HPPI-20, Room 3306

**RE: Delaware HPMS 2009**

Dear Sir/Madam:

We are submitting herewith the 2009 HPMS Data in accordance with the reporting requirements.

**Area and Population**

The 2009 HPMS information reflects the 2000-Census Urban Boundaries. The Land area and Population are presented below:

| Location                     | Area (Square Miles) | 2009 Population |
|------------------------------|---------------------|-----------------|
| Middletown, DE               | 3.5                 | 6,829           |
| Dover, DE                    | 58.6                | 73,836          |
| Georgetown, DE               | 3.6                 | 8,618           |
| Lewes, DE                    | 17.3                | 18,550          |
| Long Neck, DE                | 11.8                | 10,045          |
| Milford, DE - Kent           | 5.5                 | 5,866           |
| Milford, DE - Sussex         | 6.3                 | 8,774           |
| Ocean View, DE               | 10.4                | 9,965           |
| Philadelphia, PA--NJ--DE--MD | 188.2               | 495,025         |
| Salisbury, MD--DE            | 0.6                 | 1,276           |
| Seaford, DE                  | 15.6                | 23,707          |
| Smyrna, DE - Kent            | 6                   | 16,045          |
| Smyrna, DE - New Castle      | 1.1                 | 72              |
| Rural                        | 1,625.50            | 206,692         |
| <b>Total Urban</b>           | <b>328.5</b>        | <b>678,607</b>  |
| <b>Total Rural</b>           | <b>1,625.50</b>     | <b>202,925</b>  |
| <b>Total State</b>           | <b>1,954</b>        | <b>881,532</b>  |

The Land Area was calculated in accordance with HPMS guidelines. This year's calculations match the 2000 Census measurements of Delaware's total land area of 1,954 square miles.

Based on the 2000 Census data, the Delaware Population Consortium provided the following population data and forecasts for each county of the State.

| County      | Area (Square Miles) | Population  |         |         |         |
|-------------|---------------------|-------------|---------|---------|---------|
|             |                     | 2000 Census | 2007    | 2008    | 2009    |
| New Castle  | 427                 | 500,265     | 525,624 | 528,536 | 532,083 |
| Kent        | 589                 | 126,697     | 151,505 | 155,142 | 157,430 |
| Sussex      | 938                 | 156,638     | 187,952 | 188,597 | 192,019 |
| Total State | 1954                | 783,600     | 865,081 | 872,275 | 881,532 |

### **2009 Delaware Certification Public Mileage**

On May 7, 2010, Delaware reported 2009 Certified Public Miles to the FHWA. There were six thousand three hundred and seven (6,307) miles of public roadways in Delaware.

The following table shows the comparison of 2008 and 2009 mileage by the type of roadway by jurisdiction. There was a total increase of 25.74 miles as shown below.

| <b>2008 - 2009 Mileage Table</b> |                 |                 |               |
|----------------------------------|-----------------|-----------------|---------------|
| <b>Type</b>                      | <b>2008</b>     | <b>2009</b>     | <b>Change</b> |
| Road Inventory                   | 3,897.55        | 3,896.52        | -1.03         |
| Suburban                         | 1,437.33        | 1,447.68        | 10.35         |
| Municipal                        | 780.80          | 785.71          | 4.91          |
| DOD: Dover Air Force Base        | 41.00           | 41.00           | 0.00          |
| DOD: Army Reserve                |                 | 6.63            | 6.63          |
| DOD: Army Corps of Engineers     | 69.99           | 69.99           | 0.00          |
| Delaware Parks & Recreation      | 43.16           | 43.16           | 0.00          |
| U.S. Fish and Wildlife Service   | 11.42           | 11.42           | 0.00          |
| Delaware State Forest            |                 | 4.89            | 4.89          |
| <b>Total</b>                     | <b>6,281.25</b> | <b>6,306.99</b> | <b>25.74</b>  |

The Delaware Department of Transportation has added the following mileage by jurisdiction to meet the requirements for the HPMS Certified Mileage in 2009.

**U. S. Army Reserve**

In 2009 Delaware added 6.63 miles of roadway mileage under the U. S. Army Reserve.

**Delaware State Forest**

In 2009 Delaware added 4.89 miles of roadway mileage under the Delaware State Forest.

Army Reserve and State Forest information was furnished by the FHWA through their Internet site.

**2009 Road Inventory Mileage**

There were small reporting changes in Delaware's reported mileage, primarily due to better equipment.

In 2009 our office updated 8% of our Road Inventory data, which is approximately 300 miles or nearly 5% of the Delaware Certified Miles.

We use electronic inventory data collection software along with our data collection plan to provide updates to the federally funded roadways on a three to five year cycle.

Kevin Gustafson  
Road Inventory Supervisor  
302-760-2142  
[Kevin.Gustafson@state.de.us](mailto:Kevin.Gustafson@state.de.us)

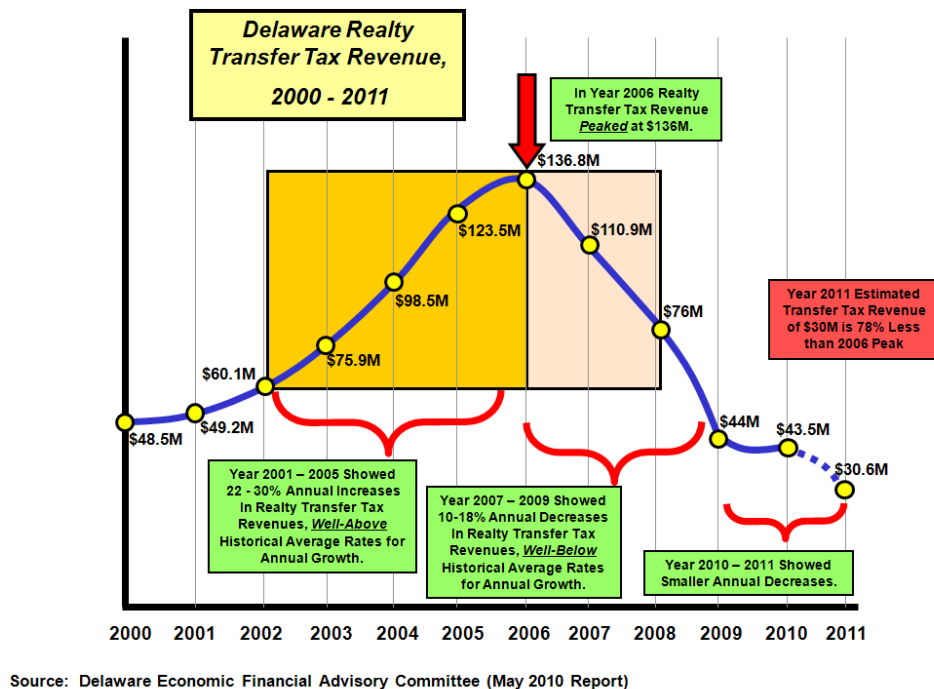
**Suburban Street Mileage**

There are 1448 miles of Suburban Street mileage which is also maintained by DelDOT and are funded through legislative Community Transportation Funds. Annually we review the mileage for these roads and include them in the suburban street inventory.

There was an increase of 10.35 miles in the Suburban Street Mileage for 2009. This mileage is grouped by county, rural and urban areas. It is also grouped by the number of lanes and by Direction (1-way, 2-way).

**Realty Transfer Tax Gross State Collections**

Delaware has a Realty Transfer Tax (which is 3% of the sale price.) The buyer and the seller pay 1.5% each. Depending on the location of property, the Realty Transfer Tax is split between the state and the municipality, or the state and the county.



One of the major sources of revenue for the State of Delaware, its three counties, and its municipalities is the property transfer tax. As the above chart shows, the upward trend has been reversing since 2006.

The Delaware Economic and Financial Advisory Committee (DEFAC) is the group tasked with tracking revenue projections from the various sources of taxes, fees, and other payments to the State. The DEFAC data for the current fiscal year 2009 are located at:

<http://finance.delaware.gov/publications/DEFAC.shtml>

A comparison of transfer tax revenue projections made in May of 2008 with those produced in May of 2009 indicates the following:

|                         | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2011</u> |
|-------------------------|----------------|----------------|----------------|
| May 2008 DEFAC Estimate | \$99M          | \$93.1M        | \$95.3M        |
| May 2011 DEFAC Estimate | \$76M          | \$44M          | \$30.6M        |
| % Change                | -23%           | -53%           | -68%           |

The table above indicates that the May 2008 DEFAC estimate for transfer tax revenues for the period FY 2008 – FY 2010 were anticipated to be less than the peak transfer tax income of \$136M received in FY 2006, but were relatively flat in terms of increases and decreases, with projected revenues in the mid \$90M range. However, the May 2009 DEFAC estimates demonstrated a drop of

23% in actual FY 2008 transfer tax revenues as well as continuing significant decreases in the projected transfer tax source for FY 2009 and FY 2010. FY 2011 estimates continue to show a decrease in projected revenue but the decrease is smaller than in years past.

The sources we used to determine the trends include looking at the transfer tax revenue and the subprime mortgage defaults affecting many areas around the country. As a result, Delaware's municipalities, as everywhere, are also facing a decline in the transfer tax revenues.

When purchasing residential property, buyers often consider the neighborhood and their commuting times to work; others are more concerned about the state they live in. To evaluate and compare the existing residential conditions by state, [Dynamic Maps of Nonprime Mortgage](#) is a good source.

[Federal Reserve](#) historical data shows that easy access to credit provided by banks has contributed to the current economic crisis.

All Eyes are On Delaware's Rate of Recovery

### ***Wilmington Waterfront Condos for Sale***

***Delaware Riverfront Real Estate, Delaware Waterfront Condos for Sale, Wilmington***

**Auction Saturday, April 10, 2010, 1:00 PM - River Tower at Christina Landing 20  
Riverfront Condominiums, Wilmington, Delaware**

**Minimum Bid \$95,000, Previously Asking \$692,000**



### **Municipal Street Aid**

There are 57 municipalities in Delaware. The increasing population and annexations of the adjoining lands by municipalities accounted for the growth trend. The Municipal Street-Aid Fund is used for cash distribution to municipalities based on road mileage and population.

DelDOT has experienced a significant decline in the revenues dedicated to fund the transportation system, including 20 percent reduction in motor vehicle fees, a 4.5 percent reduction in toll revenues and 3.3 percent reduction in motor fuel taxes. As a result, the Fiscal Year 2009 budget was reduced by \$40 million and Fiscal Year 2010 budget by \$44 million. We made reductions by pushing needed projects further out, and limited full funding for core programs such as the bridge program, pavement and rehabilitation program and intersection improvements. Other impacts included reducing the Community Transportation Fund by 50 percent, which would allow legislators to fund transportation projects within their respective districts.

Due to reduced revenues, no Municipal Street Aid (MSA) funding was appropriated by the Delaware General Assembly for Fiscal Year 2010.

DelDOT plans to reinstitute MSA in Fiscal Year 2011. Any current and/or additional mileage that would have been added to this year's program will show up in 2011.

DelDOT maintains and updates the road inventory mileage for all municipalities. In the HPMS Universe showing the county, rural and urban areas, the Municipal street mileage is presented by number of lanes as well as by Direction (1-way, 2-way). More than 99% of this mileage is local.

The State Legislature appropriates a portion of Delaware's Transportation Trust Fund under the Capital Improvement Program to qualifying municipalities. No portion of this program involves Federal Funding. The money is used for maintenance of city maintained streets as stipulated in Title 30, Chapter 51, Subchapter III of the Delaware Code.

The distribution is based on 2 factors:

1. Population: As certified by the U.S. Bureau of Census, Delaware Population Consortium, or a prescribed enumeration with population accounting for 40 % in the distribution.
2. Mileage: As verified by the Data Collection Unit, the mileage carries a weight of 60% in the distribution.

The municipalities provide updated data on an annual basis. Verification of new mileage is conducted by the Data Collection Unit. Each year, this mileage is completed and verified prior to June 30<sup>th</sup>. After verifying the required data, the calculation to determine funding is distributed to each municipality and forwarded to the State Treasurer's Office for disbursement of the state fund allocation.

A “Municipal Officials” database is maintained and continually updated utilizing various resources. It also requires constant monitoring of Municipal Elections as they occur throughout the year.

The DelDOT website shows historical data. The FY 2010-2011 Program will be posted after July 1, 2010. Also, a complete guideline for the Municipal Street Aid Funding can be found on the State Auditor's web page:

[http://auditor.delaware.gov/information/publications/MSA\\_Guidelines\\_032006.pdf](http://auditor.delaware.gov/information/publications/MSA_Guidelines_032006.pdf).

Contact Information:

D. Steven (Steve) Smith  
MSA Program Compliance Coordinator  
Planning/Mapping Section  
Ph. (302) 760-2456  
Fax: (302) 739-6371  
[steven.smith@state.de.us](mailto:steven.smith@state.de.us)

### **Electronic Red Light Safety Program (ERLSP)**

Based on positive safety-driven outcomes reported in the February 2010 ERLSP report to the Bond Bill Committee of the 145<sup>th</sup> Delaware General Assembly, over 311,000 red light running violations have been recorded at 20 intersections throughout the state since the inception of the program. Over 41,000 violations occurred in calendar year 2009 alone. Angle collisions due to red light running have been reduced at 19 out of 20 intersections as a result of the ERLSP; 14 out of 20 had fewer rear-end crashes as well. Total crashes have been reduced by 15 percent.

The ERLSP technology currently in use is owned and maintained by American Traffic Systems, Inc. (ATS). As a part of court-approved auction in 2009, the ATS acquired Nestor Traffic Systems (NTS).

Each violation amounts to a fine of \$112.50. As a result of legislation passed by the 143<sup>rd</sup> General Assembly, a \$37.50 Transportation Trust Fund surcharge was added to the \$75 statutory fine. The court cost is \$10.00 with a surcharge of \$1.00 for support to the DelJIS organization. The beneficiaries are the municipalities, and the Delaware State Police.

The Delaware Department of Transportation identified ten additional intersections where the ERLSP will be extended. All of the design is complete for those intersections, and the installation will be completed in the summer of 2010.

Currently, there are 25,171 outstanding violations from a five year period, amounting to over \$2,756,895 in fines. Delinquencies in calendar year 2009 included 5,097 violations, totaling over \$573,412.50. Approximately 15,145 violations are from in-state registered vehicles. Pennsylvania tags accounted for 3,235 violations and Maryland tags accounted for 3,312 violations. The State has asked American Traffic Solutions to assist in the delinquency recovery process. DelDOT is

evaluating a proposal on using ATS services for this purpose and expects to have a decision by the end of fiscal year 2010.

[City of Wilmington](#) runs its own Red Light Camera Safety Program independently, which is not included herein.

The ERLSP Contact Information:

Brett Taylor, Financial & Legislative Policy Advisor

DelDOT

Office of the Secretary

800 Bay Road

Dover DE 19903

[Brett.Taylor@state.de.us](mailto:Brett.Taylor@state.de.us)

(302) 760-2492

### **Department of Defense Mileage (DOD)**

During 2009 there was no change in mileage under the jurisdiction of DOD; we are reporting 41 miles for the year. This mileage exists inside Dover Air Force Base, and conforms to the guidelines of public road mileage. At the entrance of Dover Air Force Base, civilian employees and non-employees are required to pass through security clearance, show identification cards, and explain the purpose of their visit. Under the new Home Land Security guidelines, these procedures are very common in most state and federal office buildings.

Every few years, the U.S. Department of Defense consolidates Air Force Base operations; some bases are closed while others are consolidated. The closest international airports to Dover (Capitol of Delaware) are Philadelphia, PA, Baltimore, MD and Dulles, VA. The travel time to each of these airports is approximately two hours from Dover. Thus, Delaware will need a regional airport in the future. The joint use of civilian and Air Force flight operations may be more cost-effective.

The contact person for Dover Air force mileage, lanes, and AADT is:

Mr. Charles C. Mikula, Chief, Asset Management Flight

United States Air Force

Dover AFB, DE 19902

Phone: (302) 677-4753

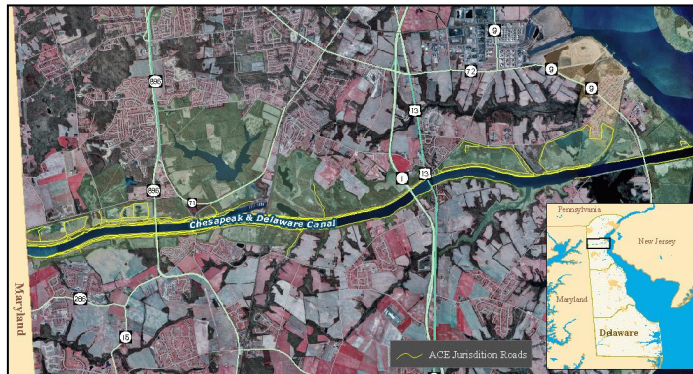
[charles.mikula@dover.af.mil](mailto:charles.mikula@dover.af.mil)

### **Army Corps Of Engineers Mileage**

In 2004, Delaware added 69.99 miles of local dirt roads in the proximity of Chesapeake and Delaware Canal. These roads are presently being used by the public and comply with the guidelines of public road mileage. Delaware Congressman Michael N. Castle, and other state and local officials as well as the public, are interested in converting some of the adjacent lands to a state public park.



The State GIS Analyst, Sarah Burkett, in coordination with the Army Corps of Engineers' Chesapeake City Project Office, has used GIS technology to calculate the mileage of roads along the C&D Canal. The methodology included heads-up digitizing of roads using a 2002 high-resolution (1:2,400 scales) infrared orthophotography base with reference to 2005 satellite imagery and hard copy maps from the Atlas of Delaware produced by DelDOT. Total mileage of the roadways were calculated using GIS length calculation tools, resulting in 69.99 miles. The U.S. Army Corps of Engineers (ACE) was given hardcopy maps of the digitized roadway for review. DelDOT and ACE mutually agreed to use this calculation for state mileage reporting purposes.



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Map displaying ACE Jurisdiction Roads identified using GIS technology.

The contact information of the official in the US Army Corps of Engineers, who reviewed the GIS data and mileage calculations, is:

James R. Tomlin, Jr.,  
Resident Engineer  
Chesapeake City Project Office  
U.S. Army Corps of Engineers  
P.O. Box 77  
Chesapeake City, Maryland 21915  
TEL: 410-885-5621  
E-mail: [James.R.Tomlin@nap02.usace.army.mil](mailto:James.R.Tomlin@nap02.usace.army.mil)

Mr. Tomlin has provided his approval of the calculated mileage.

### **Chesapeake and Delaware Canal Recreation Trail Project**

The Chesapeake and Delaware Canal Recreation Trail project, led by Congressman Mike Castle, will transform over 26 miles of Army Corps service roads from Delaware City to Chesapeake City into a multi-purpose recreation trail with associated amenities and added security. Based on the information contained in the "2003-2008 Delaware Statewide Comprehensive Outdoor Recreation Plan (SCORP)", the project design has now been completed.

A working group was formed for the C & D Recreational Study to develop an appropriate vision into a multi-use trail stretching 26 miles along the C & D Canal in Delaware and Maryland. Several public workshops and surveys were conducted where residents of both states participated. The plan entails a continuous trail from Delaware City to Chesapeake City, and a link to other greenways, trails, and historic sites in the region.

After receiving input from the public, the 30 % plans were advanced into final design. The Final Environmental Assessment (EA) was completed in July 2008. Final construction plans, estimates, and specifications were completed for review in November 2008. The US Army Corps of Engineers is the project sponsor, and will advertise the project for construction after the long-range management plan is approved.

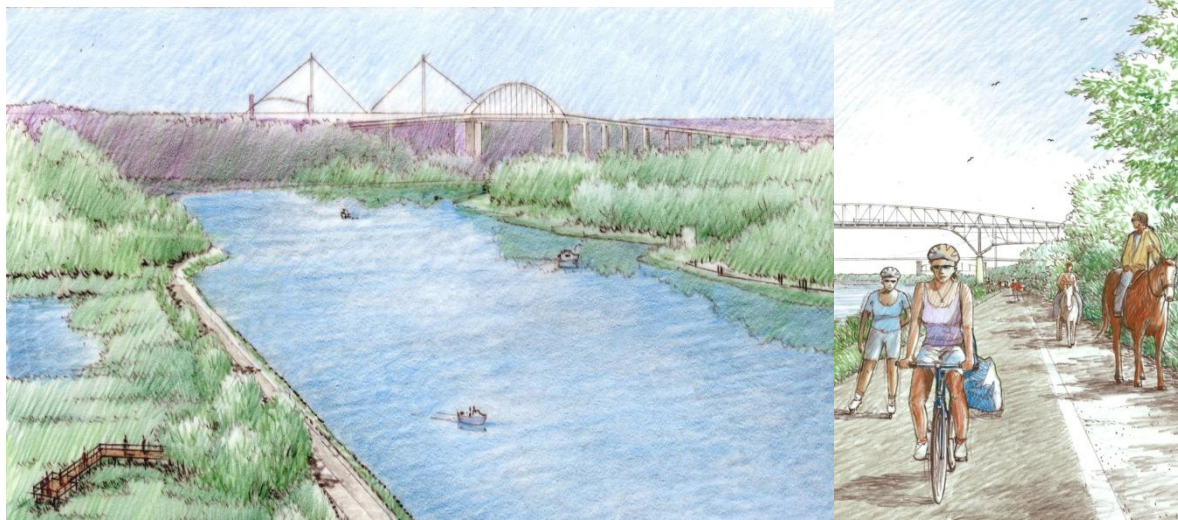
The estimated cost of the project is \$10, 500, 000 with \$978,734 spent on design.

The project will accomplish the following objectives.

1. To provide, enhance, and encourage recreational activities along the C & D Canal, particularly for the citizens of Delaware and Maryland.
2. To provide an opportunity to interconnect open space, greenways, trails, and historic sites that currently exist while encouraging future developments in the region.
3. To restore the natural habitat by planting a selection of native plants and by removing invasive species.

When the project is complete and opened to the public, it will be the first National Park in the "First State". The project may take up to 5 years to complete, but because of the ceaseless efforts by many people, including Vice-President Biden, and intergovernmental cooperation, it is expected that this landmark project could be completed sooner. Once completed, it will provide recreation and amusement to the people along the C & D Canal for the foreseeable future.

For project updates, please visit Rep. Castle's website at [www.castle.house.gov](http://www.castle.house.gov). To view the "Trail Concept Plan," please visit [www.nap.usace.army.mil/Projects/CD/index.htm](http://www.nap.usace.army.mil/Projects/CD/index.htm).



OLIVIA KURTZ  
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#### 2009 Project Status Update

The design, specifications and bid documents have been finalized. The advertisement package is complete and has since been handed off to ACOE for further processing. It is my understanding ACOE cannot advertise the project until they have worked out their long range management and maintenance plan.

There have been discussions within DelDOT that the project could be a candidate for funding under ARRA II. The estimated construction cost is over 10 million.

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Planning Supervisor  
Department of Transportation  
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[Jeff.Niezgoda@state.de.us](mailto:Jeff.Niezgoda@state.de.us)

#### Delaware Parks and Recreation

The Division of Parks and Recreation operates and maintains 16 state parks and related preserves and greenways throughout Delaware totaling more than 25,000 acres. The state's land protection programs, as well as the state's Greenways program, are administered by the Division. The Division is also responsible for providing recreational opportunities, educational and interpretive programs for the public. Other responsibilities include acquiring and developing recreational lands &

facilities, providing for the protection of natural areas, and overseeing & planning for statewide recreational needs.

The inventory for the State Parks road system lists a total of 43.16 miles. The Division of Parks & Recreation is currently updating its road inventory database, which will be provided when completed.

For more information please go to <http://www.destateparks.com>

The contact information of the person in Delaware Parks & Recreation, who provided this information, is:

Robert Shaw  
Management Analyst II  
Division of Parks & Recreation  
89 Kings Highway  
Dover, DE 19901  
Phone: (302) 739-9231  
Fax: 302-739-7026  
[Robert.Shaw@state.de.us](mailto:Robert.Shaw@state.de.us)

### **U.S. Fish and Wildlife**

Stretched along the eastern coastline of Delaware and covering 26,000 acres near Smyrna and Milton, the Prime Hook & Bombay Hook National Wildlife Refuges provide habitat for migratory birds and diversity of other wildlife. These refuges, which are managed by the U.S. Fish and Wildlife Service and are only two of the 551 units and 150 million acres of the National Wildlife Refuge System, are a mosaic of fresh and saltwater wetlands, forests, fields, and Delaware Bay shoreline that provide habitat for tens of thousands of waterfowl and shorebirds, the endangered Delmarva Peninsula fox squirrel, bald eagles, and countless mammals, reptiles, amphibians, fish, insects, and other birds.

In 2006, we added 11.42 miles along the coast line under the jurisdiction of the U. S. Fish and Wildlife at these two refuges. Nearly 200,000 visitors including wildlife observers, photographers, hunters, anglers, and students come to these refuges each year to enjoy these natural resources. Features include walking trails, observation towers, photography blinds, roadside-viewing opportunities, a 12-mile auto tour, a seven-mile creek, festivals, lecture & environmental education programs, and interpretive displays and activities.

The National Survey of Fishing, Hunting, and Wildlife Associated Recreation collects information about anglers, hunters, and wildlife watchers in the U.S. (U.S. Fish and Wildlife Service and U.S. Census Bureau). The 2006 Survey found that 395,000 Delaware residents and nonresidents 16 years old and older participated in wildlife-associated recreation in Delaware. While the total

number of participants has fallen since 2001, the number of days spent participating in wildlife recreation has risen, as have expenditures on such recreation. In 2006, state residents and nonresidents spent \$299 million on wildlife recreation in Delaware, compared to \$148 million in 2001 (in \$2006).

Wildlife-watchers alone spent \$131 million on wildlife-watching activities in Delaware in 2006 (U.S. Fish and Wildlife Service and U.S. Census Bureau). Accounting for the multiplier effect of the direct expenditures, wildlife-viewing generated a total of \$203 million in economic activity and supported 1,975 jobs in Delaware in 2006 (Leonard, 2008), comprising 0.34% of the state's GDP (Bureau of Economic Analysis) and 0.36% of all jobs in the state (USA Counties).

### **Error Messages**

- Error Messages 1: VSF must be less than or equal to 1.20
- County 5 (Sussex County) - Section ID: 000150000510

Response: Sussex County Road 15 is Rehoboth Ave., in the city of Rehoboth Beach. This section is only 0.51 miles long and it the main route to the beach. This section has K-Factor 12 and directional split of 64. From Memorial Day to past Labor Day, the condition remains congested over this very small section.

- Error Messages 2: VSF must be less than or equal to 1.20  
County 5 (Sussex) - Section ID 000240038130

Response: Sussex County Road 24, which is also Delaware Route 24, is a Rural Major Collector with two lanes, AADT of 17,562 in 2008, K-Factor of 9, Directional Factor of 60 %, and a Section Length of 2.92 miles. This road serves Delaware's major summer Beach Resort area in the Rehoboth area and traffic back up is not uncommon during the entire summer season.

- Error Messages 3: Unusually high number of intersections (> 25 per mile)  
County 5 (Sussex County) - Section ID: 000500004520

Response: Sussex County Road 50 is designated as Delaware Route 1. It has a sample length 0.52miles, and this sample is in the town of Bethany Beach. The number of intersections is correct

- Error Messages 4: Unusually high number of intersections (> 25 per mile)  
County 5 (Sussex County) - Section ID: 000760000220

Response: Sussex County Road 76 and it has a sample length 0.22 miles. This sample is in the town of Delmar. The number of intersections is correct.

### **Standard Samples and Donut Sample Volume Group**

We have reviewed and analyzed the HPMS sample requirements for the 2009 submission.

Using the HPMS software on FHWA Internet UPAC site, Highway Performance Monitoring System v7.2 and our micro analysis on the Urban, Urbanized, Small Urban and Rural Area, indicates that there are at least 5% HPMS samples in excess of the requirement.

In the past, the traffic growth throughout the state created a shift in the High Volume Group. Furthermore, the opening of SR-1 toll road from Dover to I-95 has changed the travel patterns.

The current decline in economy has caused a significant impact in transportation unseen in Delaware since the creation of Delaware Highway Department almost 90 years ago. The Annual Vehicle Miles of Travel has decreased appreciably.

2004 DVMT for the State was 25,379 thousands and five year later in 2009 it is 24,770 thousands which is 2.40% less.

In New Castle County and the Wilmington Urbanized Area (including a part of Philadelphia Area), the unemployment rate is above 10%. Employment in the banking sector has substantially diminished. General Motors and Chrysler plants, which operated in three shifts, are closed. Port facilities are working at less than 50% of the capacity.

In the Dover Urban Area, some of the major retail chain stores like Boscov's and Value City have filed bankruptcy. Bank of America relocated and off-shored their credit card call centers, which were situated in the Silver Lake Office Park and the Blue Hen Corporate Center. In the past 5 years, 850 jobs were lost.

In Sussex County's Seaford Small Urban Area, the DuPont Nylon plant has shifted their manufacturing unit, which has resulted in a relocation of more than 85 % of their employment.

Our permanent traffic counters are showing significant decline in AADT across the entire state.

Many of the samples recommended for deletion do not meet the logical section length (HPMS Manual Chapter VII) requirements. Also, the difference between required and current samples is more than 3.

For the above reason, along with other significant sample selection criteria, we have added and deleted samples from different Volume Groups evenly distributed throughout the state.

The deletion of these samples will not affect the existing or forecast traffic analysis. Delaware provides AADT for the entire universe.

The 2009 Universe comprises 6,307 miles of roadways in Delaware. We have deleted 4 standard samples and added 9 new samples in the lower volume group. There was a net increase of 5

Standard samples. Samples were deleted either because they were very small sections, under 0.40 miles in section length, which did not meet the adequacy guidelines. We added 92 Donut Samples. This increase in the 2009 Donut Samples only affects the calculation table using expansion factors. In the Summary Table, Delaware provides the actual DVMT for the Donut Area.

The annual changes in Standard and Donut Samples are presented below.

#### **Change in Standard & Donut Samples**

| <b>Year</b> | <b>Samples</b> | <b>Change</b> | <b>Donut Samples</b> | <b>Change</b> |
|-------------|----------------|---------------|----------------------|---------------|
| 2000        | 587            |               | 89                   |               |
| 2001        | 621            | 34            | 109                  | 20            |
| 2002        | 628            | 7             | 118                  | 9             |
| 2003        | 643            | 15            | 175                  | 57            |
| 2004        | 733            | 90            | 212                  | 37            |
| 2005        | 658            | (75)          | 253                  | 41            |
| 2006        | 643            | (15)          | 255                  | 2             |
| 2007        | 638            | (5)           | 258                  | 3             |
| 2008        | 615            | (23)          | 288                  | 30            |
| 2009        | 620            | 5             | 380                  | 92            |

The AADT, as reported, is for the entire universe of the state, including roads and streets classified under the Local category. Field counts are made for all state-maintained roads. For Suburban Street mileage and municipally maintained roads, which are grouped together, a sampling procedure is used along with engineering judgment, to determine the traffic volumes. The function of Donut Samples is to estimate DVMT in Rural and Small Urban Areas, Urban and Rural Minor Arterials, Urban Collectors and Rural Major Collectors. The entire universe data are provided on Summary Sheet A, (Daily Travel Information in Thousands).

#### **Sample Status**

Delaware now has more samples than the minimum HPMS sample requirement. For a small state with only 6,307 certified miles, there is a standard sample section for nearly every ten miles. Besides the HPMS needs, samples are included where major traffic patterns may change due to increased tolls on Interstate roads and SR-1 tolled freeways. As the AADT in 2009 dropped from the previous year, the sample shift to the lower volume groups was apparent. As in the past, the sample sections will be reviewed and updated every year.

#### **HPMS Roughness Reporting**

Roughness measurements were collected in the State of Delaware in accordance with Appendix E in the HPMS Field Manual dated 2005. Data collection was required for some sample segments and recommended for others. Because of time constraints, data were not collected for the



“recommended” segments, but they were collected for the entire length of “required” segments. Roughness measurements were conducted on Rural Principal Arterials (HPMS Code 2), Rural Minor Arterials (HPMS Code 6), Urban Principal Arterials – Interstate (HPMS Code 11), Urban Principal Arterials – Freeways & Expressways (HPMS Code 12), and Urban Principal Arterials (HPMS Code 14).

DelDOT does not have equipment to collect IRI and must depend on an outside vendor. The required IRI data was collected in 2009 and the HPMS data base was updated by our OIT office.

### **Present Serviceability Rating (PSR)**

The Pavement Management Section collects the PSR data on an annual basis.

1. The Overall Pavement Condition (OPC), as determined by the Pavement Management Section, is the source of the PSR data. A consultant is retained to perform the task.
2. The Pavement Management Section has collected data for all state-maintained roads in 2007, 2008, and 2009. For 2009, the data has been collected but not reported at the time of this submission.
3. The severity and the extent of distress of each roadway segment are evaluated by visual inspection. The consultant collecting the ratings retains an academic expert to provide the QA/QC report reviewed.

The engineer in charge of PSR data is:

Jennifer Pinkerton

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### **FHWA Review and Response to HPMS Data**

Last year, DelDOT submitted HPMS data conforming to the reporting requirements.

On Thursday, May 20, 2010, Kris Riesenbergs, FHWA DelMar Division Office performed a HPMS Field Audit.

The following comment was received by e-mail from Kris Riesenbergs on May 24, 2010.

*Last Thursday (05/20/2010) was a successful HPMS field review. Bhai and Kevin were very helpful and accommodating in order to review the many samples. The sample review revealed a few errors in the coded values in HPMS. The DelDOT HPMS program data is generally accurate.*



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We have taken a number of steps to address the minor coding errors.

### **Changes Planned for 2010 HPMS**

During 2009, Delaware like other states, is facing a slowdown in the economy. With the closing of various manufacturing, banking, and other businesses, we plan to reschedule counts to reflect the changing traffic conditions. Traffic Pattern Group factors for some locations may need to be reevaluated. We will recheck our procedures for developing the seasonal group factors, directional splits and peak hour factors, especially along summer routes. For the 2010 HPMS submission, we will be providing ramp counts and truck DVMT.

With the help of the Office of Information Technology, we are developing truck maps, showing percentages of peak hour trucks for single and combination units.

At present, the previous HPMS software Version 6, dated April 19, 2004, is still being used. Only one person, the HPMS coordinator, has access to the HPMS 7.0 software. After this 2009 submission, we plan to have a meeting to review significant changes required to meet HPMS Reassessment 2010.

### **LRS For GIS Products**

We have coded the LRS data for this 2009 HPMS submission. The road centerline file is in an ESRI shapefile format with associated metadata. The attribute data for the centerline includes the LRS identification field and DelDOT's linear referencing fields including roadway ID, beginning mile point and ending mile point.

The contact information for the consultant in charge of LRS is as follows:

Kumar Sanjay  
GIS Consultant  
DelDOT  
Phone: 302-760-2648  
[Sanjay.Kumar@state.de.us](mailto:Sanjay.Kumar@state.de.us)

### **Site- Specific Travel Activity/Vehicle Classification Data**

There were 200 short-term counts taken in 2009 and 23 Weigh-in-motion stations were calibrated. All of our ATR sites were operational throughout the year, with the exception of a few locations that were temporarily off-line for repairs, or due to construction.

- Site 8013, located at Limestone Road and Arundel Drive was out of service for the months of May and June;
- Site 8026 at DE 7, south of Little Baltimore was out of service for most of July;
- Site 8054, located on U.S. 13, north of Cheswold, was not functional during the months of November and December;
- Site 8062, located at DE1 southbound to U.S. 113 was out of service January, February and March;
- Site 8077 on DE 1 in Fenwick, was out of service in June and July.

Although these sites were temporarily off line, they were functional for at least 200 days during the year, with the exception of 8017 on DE 896, north of the Summit Bridge. This ATR was out of service for most of the year, due to the reconstruction of the Summit Bridge. All other locations met the threshold for usable data.

### **Travel and Demographic Data**

The 2009 population data was obtained from the October 2009 Population Consortium. The Delaware Land Area remains at 1954 square miles, conforming to the 2000 U.S. Census.

Population: The yearly change in population by county is tabulated below:

| County             | Population by Year |                |              |
|--------------------|--------------------|----------------|--------------|
|                    | 2008               | 2009           | % Change     |
| New Castle         | 528,536            | 532,083        | 0.67%        |
| Kent               | 155,142            | 157,430        | 1.47%        |
| Sussex             | 188,597            | 192,019        | 1.81%        |
| <b>Total State</b> | <b>872,275</b>     | <b>881,532</b> | <b>1.06%</b> |

The growth of population was only 0.67% in New Castle County. There are several reasons for the slight growth, which include several years of major bank mergers, transfers of credit card operations to other states, and outsourcing work assignments to other countries. The City of Wilmington, which is the financial hub of banking operations in Delaware, has a wage tax. There continues a general shift of jobs to lower tax area states offering other incentive packages. In comparison to the other two counties of Delaware, the property prices are higher in New Castle County. Early-retirement opportunity, buyout offers, and elimination of salaried positions in automobile assembly plants created a migration of some labor force from Delaware. The General

Motors assembly plant near Elsmere went from three shifts to only one by the end of 2008 and closed in 2009. The Daimler-Chrysler assembly plant in Newark closed in November 2008 after experiencing shift reductions in prior months. Despite these factors, there was still a slight growth of population in New Castle County.

Kent County had an increase in population of 1.47% for the year. The main reason for the increase can be attributed to affordable housing and the ease of travel after the completion of the SR-1 freeway in 2004. The state capitol is located in Kent County.

Sussex County had the largest increase, a 1.81% growth in population. There was a large population migration from other states into Sussex County. Despite the national recession, the cost of living, affordable housing, open space, environmental benefits and convenient public transportation are some of the major reasons for this increase in population. As the demographic changes in the Census indicate, many of these new comers are retirees and senior citizens. That was one more factor for an unusual booming residential demand in Delaware during the years 2000-2005.

In 2009, like most other states, Delaware is facing a high foreclosure rate. With a decline in the housing industry, there is a problem for the new immigrants who were employed in the construction. Low salaries and sporadic employment in this sector have also contributed to the high foreclosure rate within the state.

### **Daily Vehicle Miles of Travel:**

The following table shows DVMT in Delaware by county:

| <b>Daily Vehicle Miles Travel (000)</b> |             |        |                      |
|---|-------------|--------|----------------------|
| <b>County</b>                           | <b>Year</b> |        | <b>Annual Change</b> |
|   | 2008        | 2009   |                      |
| New Castle County                       | 14,407      | 14,479 | 0.50%                |
| Kent County                             | 4,388       | 4,471  | 1.89%                |
| Sussex County                           | 5,751       | 5,821  | 1.22%                |
| State of Delaware                       | 24,546      | 24,771 | 0.92%                |

The HPMS daily vehicle miles traveled data for 2009 indicate a trend that seems to be following national economic and other transportation-related trends. While the percent change in Delaware's DVMT from 2007 to 2008 was -5.2% (the second largest drop on record since HPMS data collection was initiated in the 1970's), the change from 2008 to 2009 was a 0.92% increase in statewide travel. The modest increase in travel during 2009 is a departure from the relatively large drop the year

before, and appears to indicate that transportation-related trends and travel patterns are beginning to recover from recessionary effects.

In terms of county-based travel trends, New Castle County showed a decrease of -5.1% between 2007 and 2008 but that trend reversed to a 0.50% increase between 2008 and 2009. Sussex County went from a -5.0% decrease between 2007 and 2008 to an increase of 1.22% from 2008 to 2009. Kent County demonstrated the most dramatic shift, going from a decrease of -5.74% between 2007 and 2008 (the largest decrease of Delaware's three counties that year) to an increase of 1.89% between 2008 and 2009.

These modest increases in travel trends between 2008 and 2009 are in line with the percentage increase in housing and job growth for the state; these are well-below typical averages over the past 30 years but the small increases between 2008 and 2009 are a much different trend than the sharp drop previously."

**National Highway System (NHS):**

There were no changes to the NHS for 2009. It remains 338.17 miles.

**Strategic Highway Network (STRAHNET):**

The STRAHNET mileage has not changed for 2009. It remains 146.90 miles, including 40.61 miles in the Interstate Highway System.

**Intermodal Connector:**

Delaware has 7.00 miles of Intermodal Connector mileage and has not changed in 2008.

**Delaware Toll Routes**

There was no change in the toll road mileage of 48.40 miles in Delaware.

**Traffic Volatility:**

Unusual traffic conditions exist in many roadway sections of lower functional classifications. From field observations, we believe this is due to recreational traffic in the summer as well as peak traffic in urbanized areas (Dover and Wilmington). There is a tendency by local residents, familiar with area roads, to use short cuts to bypass the congested mainline traffic.

**Lane Width:**

The lane width is based on road markings. Much of Delaware Road Inventory data are over three years old. As we continue to update our Inventory files, the necessary changes will take place.

**2009 Status of Unpaved Roads**

There were 92.64 miles of unpaved roads in 2009. DelDOT has a special unpaved roads schedule program, and funds are allocated every few years. In 2009 there were no roads under the jurisdiction of DelDOT which were classified as unpaved. Reporting Year in which the roads were

first added to the Delaware Certified Mileage, Jurisdiction, and Rural-Urban Mileage for the unpaved roads is shown in the table below.

2009 Unpaved Road Mileage by Year, Jurisdiction & Rural -Urban

| Year | Jurisdiction                    | Rural | Urban |
|------|---------------------------------|-------|-------|
| 2005 | Army Corps Of Engineers Mileage | 69.99 |       |
| 2006 | Delaware Parks & Recreation     | 6.54  | 1.55  |
| 2006 | U.S. Fish and Wildlife Service  | 10.09 |       |
| 2009 | State Forest                    | 4.47  |       |
|      | Total                           | 91.09 | 1.55  |

Total Unpaved Miles in Delaware 92.64 miles

### **Highway Surveillance Systems (item's 38 – 46):**

All of the information provided to us for the 2009 HPMS submittal came from data collected by the Transportation Management Center (TMC). Data collected for items 40 and 42 are also maintained by the Transportation Management Center (TMC) in an ESRI SDE database.

Changes made for 2009 HPMS:

Ms. Silvana Croope (DelDOT Traffic Management Center) preformed all changes that were entered into ESRI SDE Spatial database. Mr. Darin Dell (DelDOT OIT) compiled data for the report. Mr. Sanjay Kumar (DelDOT OIT) ran queries on the data and entered changes into the spreadsheet that was provided to Mr. Subhash Bhai. Additional comments were received from The Chief Traffic Engineer, Mr. Donald Weber.

Item 38 – Collection of Real-time traffic data to monitor traffic flow:

System loops have been installed at a number of intersections statewide and data is pulled from them. As an example we do use the signal loops in the resort area to pull real time volumes on beach routes and to operate the traffic signal system. We have also brought all of the approximately 80 count stations online last year and can monitor volume and speed near real time. In addition we will begin installation of microwave detection sites along I-95 from the Maryland State line to SR 141 in the spring of 2010.

Item 39 – Metered entrance ramps:

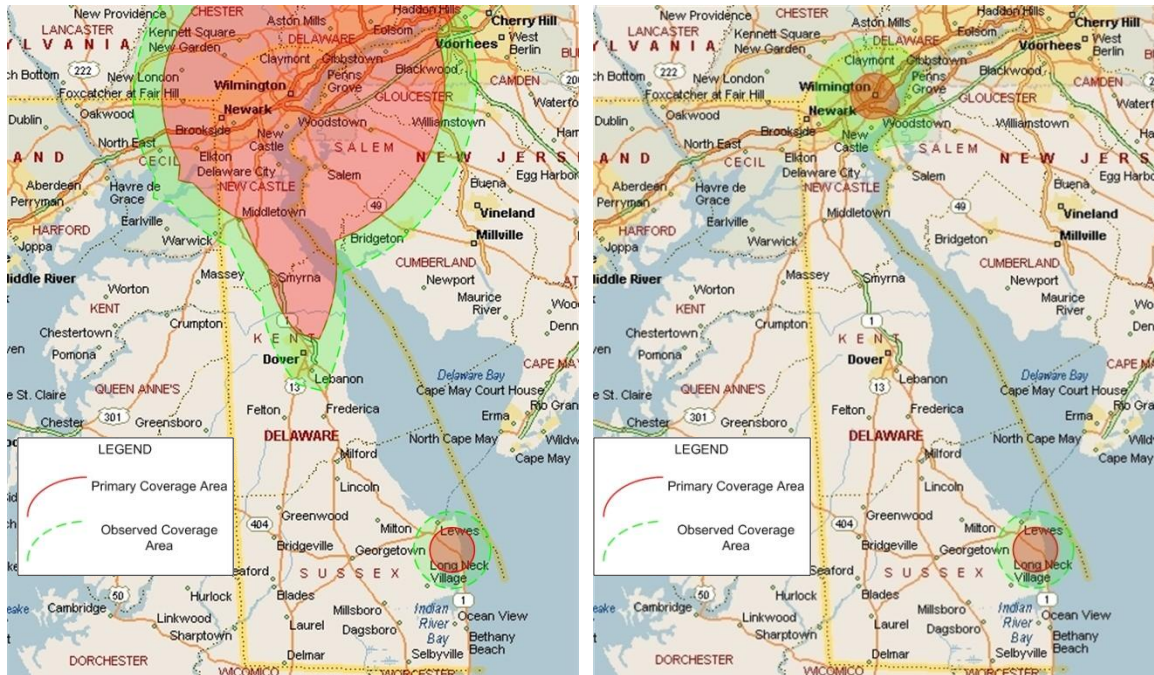
None for the state

Item 40 – Variable message signs:

Reported 9 signs in 2008 and no signs were added in 2008. Obtained from Spatial database.

Item 41 – Highway Advisory Radio:

Reported in 2008, Route 1 only from NC County to Dover also Route 1 from 5 Points Lewis to north of Bethany. Radio is fulltime operation but because of FCC requires the Wilmington transmitter operate with reduced power at night. Repeaters have been constructed and exist in Rehoboth, in Dover at the DelDOT Administration Building complex, in Dover at the Scarborough Road Interchange and in Smyrna at the South SR 1 interchange.. Several more are planned to be constructed in FY 10 and FY 11 depending on funding



Item 42 – Surveillance Cameras:

Reported 85 cameras for 2007. Twenty-one cameras were added in 2008 making the

WTMC Daytime Coverage

WTMC Nighttime Coverage

Total 106 cameras for 2009. Obtained from Spatial database.

Mr. Sanjay Kumar, queries roadway segments within a half-mile of cameras to generate report.

Item 43 – Incident Detection Tech. Algorithms:

None for the state

Item 44 – Covered by free Cell Phone (#77):

Statewide 24/7 coverage by DSP for 911 and #77 by DelDOT.

Item 45 – Public Service Patrol or Towing:

No fulltime Public Service Patrol or Towing for the state.

We operate a MAP program on I-95 during peak hours, holidays and weekends. In addition we offer a STO program along primary beach routes (both north south and east west) during the summer.

Item 46 – Hardware needed to provide In-vehicle signing info to equipped vehicles:

None for the state

Future improvements for 2010:

We expect to add several cameras, bring additional signal locations under central signal system control and possibly to complete a communications backbone from Dover to Milford (possibly with microwave).

Below is the contact information for the DelDOT employee in charge of compiling the Highway Surveillance System data. Information is furnished below:

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***Fax (302) 760-2632***

***Email: [Darin.Dell@state.de.us](mailto:Darin.Dell@state.de.us)***

#### **Item 50 Surface/Pavement Type**

- Item 50 Surface/Pavement Type: Visual Pavement Management System Software – Surface type is updated by consultant performing condition ratings for the state-maintained inventory on an annual basis (suburban inventory may skip years), Pavement Management maintains this database and surface changes are submitted to Planning to update the road inventory. Surface type data is also updated when construction projects are completed and form is submitted to Pavement Management, which updates the surface type manually.
- Item 53 – Year of Surface Improvement: Visual Pavement Management System Software – Improvement data is updated when construction or maintenance projects are completed and a form is submitted to Pavement Management, which updates the construction history of the road segment affected.

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Dover DE 19901  
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- Item 51 – SN or D  
For the structural number determination, Materials & Research has an internal database that is used to determine material compositions and pavement thicknesses. From that database, structural numbers are determined.

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Chief Materials & Research Engineer  
Transportation Solution & Engineering Support

Material & Research Section

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- **Item 62 — Widening Feasibility**

In 2008 all the 620 HPMS Samples were evaluated for widening feasibility by visual examination of the latest (2007) aerial photography in ArcGIS. Staff created 10-foot lane “buffers” that we superimposed on the road network to assist in visually estimating widening feasibility of the sample road segments. This system enabled the Department to tell how many 10-foot lanes could reasonably be added to either side of the segments or how close any permanent structures were to the segment.

Item 62 was updated with 2009 HPMS samples and roads with major improvements were also updated. Staff will be developing a tracking system in 2009 (working with District offices) to track any new road widening projects and adjust HPMS Item 62 accordingly.

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Supervisor

DelDOT Planning Division

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### **Pavement Geometric**

- Items 63-68 – Curves by Class: Falcon/DMS: Actual Construction Plan Curvature
- Items 72-77 – Grades by Class: Falcon/DMS: Actual Construction Plan Profiles

HPMS software was used to evaluate the 2009 Samples Adequacy Requirements. Nine (9) new samples were added in Kent, Sussex & New Castle Counties. Pavement geometry was reported accordingly. Random checks on existing data were also corroborated. The above information was obtained from DelDOT’s archive plan database. Users should have proficiency of plan reading, station to milepost conversion and archive file search criteria.

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Quality Section Dover DE 19901

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### **Traffic/Capacity**

The Traffic Studies Section was responsible for updating the following 10 items for all the roadway segments (620 segments) in New Castle, Kent, and Sussex Counties for the 2008 HPMS submission:



- 61 Peak Parking
- 78 Percent Passing Sight Distance
- 80 Speed Limit
- 88 Left Turning Lanes
- 89 Right Turning Lanes
- 90 Prevailing Type of Signalization
- 91 Typical Peak Percent Green Time
- 92 Number of At-Grade Intersections – Signals
- 93 Number of At-Grade Intersections – Stop Signs
- 94 Number of At-Grade Intersections – Other or No Controls

The resources we used to update these items included DelDOT's Digital Video Log, aerial photographs from GeoMedia and various internet maps, and existing signal and regulatory sign resolutions found in DocStar (a document database of resolutions and agreements). With these resources the inventory segments were viewed (via the aerials and video log) to check for passing sight distance, left and right turning lanes, and number/type of intersections. The current speed limit and parking restrictions were verified by checking the resolutions from DocStar and by viewing digital video log and live internet street views. Signal timings are verified by the time sheets, however, timing adjustments can be made in the field at any given time which would change the estimated green time provided during our analysis. For example, some of our east-west beach routes in Sussex County carry heavier loads of traffic during the summer when compared to the rest of the year, which could result in higher than typical green times. For these segments, the green time values reported represents a more typical peak green time during the rest of the year. Therefore, the prevailing signalization and green time were verified by using our knowledge of the location and by contacting the TMC when necessary. We also relied on experience and knowledge of the Traffic Studies staff from numerous field reviews that are performed regularly to update and maintain many of the items.

In 2010, we were tasked with updating all 620 segments for the state of Delaware; all updates to the segments for New Castle, Kent, and Sussex County have been completed.

Information provided by:

|   |   |  |
|---|---|--|
| <p>For New Castle County:<br/> Peter Haag (DelDOT)<br/> Traffic Studies Engineer<br/> Tel. (302) 659-4084<br/> Fax (302) 653-2860<br/> Email:<br/> <a href="mailto:Peter.Haag@state.de.us">Peter.Haag@state.de.us</a></p> | <p>For Kent County:<br/> Kristen Melendez (DelDOT)<br/> Traffic Studies Engineer<br/> Tel. (302) 659-4096<br/> Fax (302) 653-2860<br/> Email:<br/> <a href="mailto:Kristen.Melendez@state.de.us">Kristen.Melendez@state.de.us</a></p> | <p>For Sussex County:<br/> Naa-Atswei Tetteh (DelDOT)<br/> Traffic Studies Engineer<br/> Tel. (302) 659-4097<br/> Fax (302) 653-2860<br/> Email:<br/> <a href="mailto:Naa-Atswei.Tetteh@state.de.us">Naa-Atswei.Tetteh@state.de.us</a></p> |
|---|---|--|

- **Year of Future AADT (Forecast Traffic 2030)**

Mike DuRoss, a supervisor in DelDOT's Division of Planning, provides traffic forecasts for the department. The forecast traffic year for this HPMS submission is 2030, the same as last year's submission. The 2030 horizon year is consistent with the latest adopted long-range transportation plans for Delaware's two MPO's, the Wilmington Metropolitan Area Planning Council, and the Dover/Kent MPO. The Division of Planning's "Peninsula Travel Demand Model" produced the 2030 forecast traffic, Version "Clean Model 15B" prepared by WRA in September, 2008. This is a standard five-step travel demand model in the CUBE Voyager software (Version 5.0.1, September, 2008) that covers Delaware's three counties but also includes the nine counties of Maryland's Eastern Shore.

The model described above was used to develop projections for the year 2030 in this year's new HPMS sample sections. It was also used to review projections for all Interstate, freeway and expressway samples as the projections on those sections tend to be very sensitive to the annual updating of traffic counting data. As with last year's HPMS submission, this submission included a review of traffic data for all samples in the HPMS universe. This comprehensive review used the latest version of DelDOT's travel model which also included updated population and employment data for all Traffic Analysis Zones in New Castle County as well as the nine Maryland counties, and was based upon an updated traffic assignment calibration using DelDOT's "2005 Traffic Summary". As noted above, this comprehensive review used the forecast horizon year from the 2030 planning horizon year of the WILMAPCO Long-Range plan for New Castle County and the Dover/Kent MPO Long Range plan for Kent County.

Due to the number of samples reviewed for traffic forecast growth factors in this year's submission, the HPMS console was not used because time constraints did not permit the traffic forecasting staff to learn the menu systems and other aspects of that particular software. It is again noted that use of the HPMS console is a recommendation for traffic forecasting for next year's HPMS submission. It is noted that the travel model was calibrated to the 2005 AADT's, the future year growth factors were derived from the 2005-2030 period and applied with manual adjustments as necessary. The travel model will be recalibrated to 2009 traffic counts in the summer of 2010. The travel model horizon year will be extended to 2040 prior to the next HPMS submission for all counties in the model coverage, as the update of the WILMAPCO long range plan currently underway (as of May, 2010) requires that effort be completed to meet FHWA planning horizon regulations.

The contact person in charge of forecasting traffic in DelDOT is:

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**Delaware Interstate Travel**

The following Interstate routes exist in Delaware.

| <b>Interstate Route</b> | <b>Total Miles</b> | <b>Urban Areas Served</b> |
|-------------------------|--------------------|---------------------------|
| 95                      | 23.43              | Philadelphia              |
| 295                     | 5.71               | Philadelphia              |
| 495                     | 11.47              | Philadelphia              |
| Total                   | 40.61              | Philadelphia              |

Since 1995, the traffic on the Interstate routes has continued to fluctuate, while the number of miles has remained the same. The following table shows the Daily Vehicle Miles of travel on the Interstate routes since 2000.

**DVMT on Interstate Routes**

| <b>Year</b> | <b>DVMT<br/>(000)</b> | <b>Change</b> |
|-------------|-----------------------|---------------|
| 2000        | 3,807                 | -0.92%        |
| 2001        | 3,789                 | -0.46%        |
| 2002        | 3,766                 | -0.61%        |
| 2003        | 3,808                 | 1.12%         |
| 2004        | 3,852                 | 1.15%         |
| 2005        | 3,793                 | -1.56%        |
| 2006        | 3,633                 | -4.21%        |
| 2007        | 3,533                 | -2.78%        |
| 2008        | 3,423                 | -3.11%        |
| 2009        | 3,371                 | -1.52%        |

Since 2000, the DVMT on Delaware Interstate routes has been almost stagnant. The DVMT peaked in the year 2004.

As indicated by the DVMT table above, a four-year trend of declining traffic on Delaware's Interstate Routes since 2004 can be attributed to congestion and higher tolls. Also, the Interstate routes in Delaware are connected with major airports in the adjacent states, where the airlines have cut down services due to higher fuel cost and low load factor.

## Delaware Interstate Ramps

The Interstate ramp data are presented below.

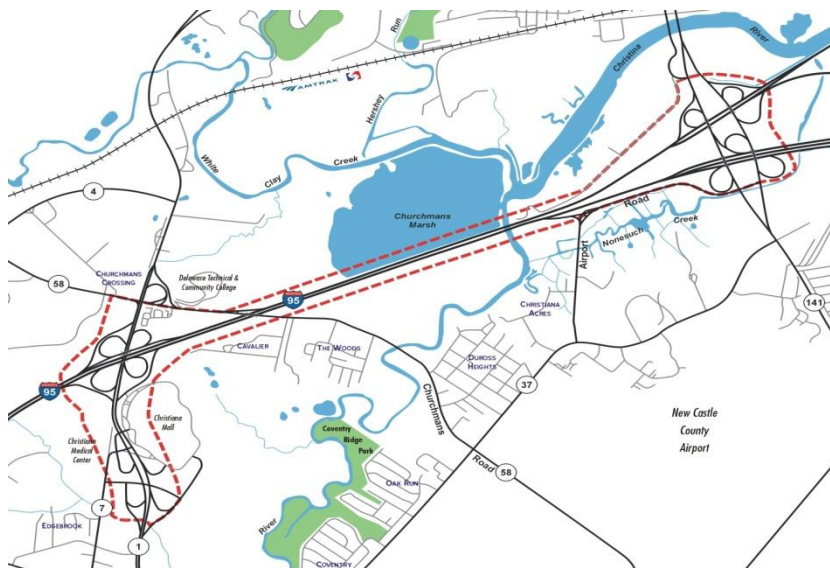
| Interstate Route Ramps | Miles | Lane Miles | Urban Areas Served |
|------------------------|-------|------------|--------------------|
| 95                     | 22.41 | 25.67      | Philadelphia       |
| 295                    | 8.05  | 10.76      | Philadelphia       |
| 495                    | 6.82  | 6.90       | Philadelphia       |
| Total                  | 37.28 | 43.33      | Philadelphia       |

While the Interstate mileage is only 40.61 miles in the entire state, there are 37.28 miles ramps along the Interstate routes. Since the ramp mileage is significantly disproportionate, the FHWA and Congress should modify the federal-aid formula to include Interstate ramps for equity in the apportionment.

### SR - 1 Interchange/ I-95 Mainline Area

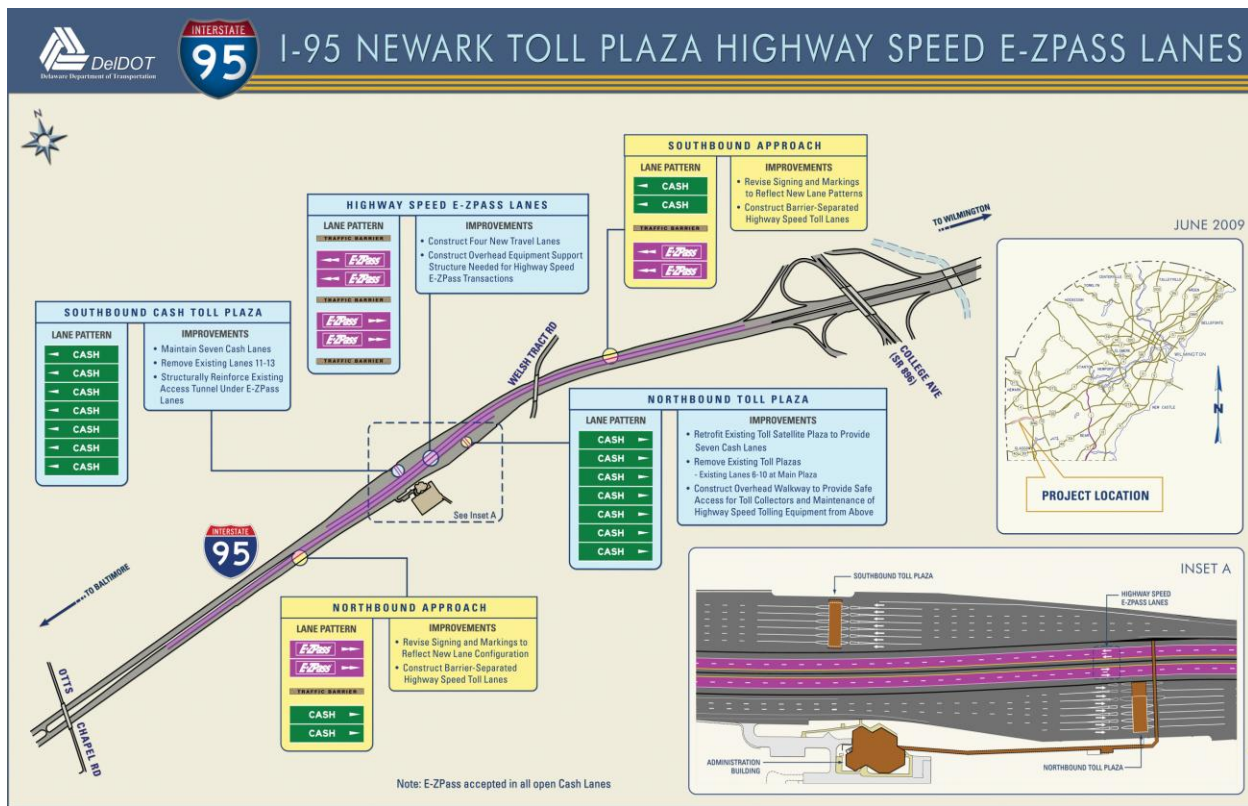
In 2009, DelDOT continued work on the final design on the SR-1/I-95 interchange project. This project will provide high-speed connector ramps from I-95 to SR-1 and the reverse. The area is continually congested due to continued development, high traffic volumes, limited ramps movement, etc. We have already completed and gotten Federal approval on the Environmental Re-evaluation and have an approved IAPA report from the FHWA. The total cost of the Interchange project will be in excess of \$165M. Design will continue through 2010. Work will not begin until 2011.

A map of the interchange and the area is presented below:



SR - 1 / I - 95 Interchange and Vicinity  
JFK Memorial Highway Improvement Program; [Newark Toll Plaza / I-95](#)

In 2009 DelDOT continued final design of the I-95 Newark Toll Plaza Highway Speed E-ZPass lane. This project will allow 2 lanes of highway Speed E-ZPass users through the toll facility. Cash customers will still have 7 lanes in each direction. The project will also include coordination of any integrator technology to handle the customers and users and must be maintain during and after the construction. Work is expected to begin in the field in April 2010. Contract time is 479 days.



This is a recurring roadway condition and we will continue to report this locations operating at undesirable level of service until these projects are completed.

(Source: Darren O'Neill, Project Manager)

## Traffic Congestion

When the Volume/Service Flow Ratio (V/SF) exceeds 1.20 at a sample section, the HPMS data process sends an error message in the output. The default in HPMS software is that the V/SF ratio must not exceed 1.20, because the capacity would not allow such a high level of traffic flow. However, V/SF ratios in excess of 1.20 do occur on several highway segments in Delaware.

The best example of this condition is on Delaware Route 24, near Route 1, in Sussex County. The observed V/SF ratio of 1.28 and 1.32 is correctly reported. However, it appears to overstate the situation because the traffic does continue to flow through the section, where this ratio is observed.

These ratios reflect resort-related seasonal traffic. The Department depends on the consulting firm Chaparral for traffic monitoring activities. The existing traffic counts are 2009 data. This area is congested during the summer and the drivers seem to accept lower headways and lower speeds then.

The following table shows the mileage by county, where the V/SF ratio continues to exceed 0.80 since 2000.

**Miles by County with Volume/Service Flow Ratio (V/SF) exceeding 0.80**  
(V/SF multiplied by Sample Expansion factor)

| Year | County     |       |        | Mileage |
|------|------------|-------|--------|---------|
|      | New Castle | Kent  | Sussex | Total   |
| 2000 | 35.62      | 12.20 | 9.37   | 56.23   |
| 2001 | 41.89      | 17.46 | 36.94  | 96.29   |
| 2002 | 71.68      | 16.38 | 22.70  | 110.77  |
| 2003 | 80.93      | 15.26 | 19.12  | 113.80  |
| 2004 | 66.38      | 12.95 | 30.99  | 110.32  |
| 2005 | 60.45      | 13.37 | 21.79  | 95.61   |
| 2006 | 83.85      | 16.99 | 43.40  | 144.24  |
| 2007 | 71.71      | 7.09  | 34.36  | 113.17  |
| 2008 | 23.51      | 3.76  | 31.57  | 58.84   |
| 2009 | 23.88      | 3.49  | 38.85  | 66.23   |

The above table shows that there were 66.23 miles of road in the year 2009, where the V/SF ratio exceeded 0.80.

In New Castle County, there were 23.88 miles of congestion including 6.54 miles on urban interstates (I-95, I-295 & I-495) in the Philadelphia Urbanized Area. There is also a small section on SR-1 (Freeway & Expressway).

In 2009, a section of I-95 was widened from 8 lanes to 10 lanes. The excessive congested conditions have improved since the major widening of the Interstate.

This Northeast Philadelphia corridor, which extends through Pennsylvania, Delaware, and Maryland, has no easy solution to address this ongoing congestion. Perhaps, the implementation of congestion pricing, as Europe has done, may be a viable alternative.

After the completion of SR-1 (toll) freeway in 2004, this route became the primary corridor for travel to the state capital in Dover, and to Delaware's beaches. Merging from the SR- 1 (toll) freeway to I-95 is a major bottleneck and is severely congested throughout most of the year.

In Kent County, congestion is primarily the result of through traffic merging with local traffic during the peak hour in the Dover urbanized area. Both U.S 13 and U. S. Route 113 in this county have multiple commercial strip developments, which cause traffic congestion throughout the year.

The primary cause of congestion in Sussex County is heavy seasonal traffic to the Delaware and Maryland beaches from points in the Philadelphia, Wilmington, Baltimore and Washington, DC areas during the summer. This beach traffic passes through several small towns merging with local traffic, which causes congestion. During 2009, there was a 7.28-mile increase in the congestion mileage in Sussex County. This may be due to economic conditions created by the recession which has forced more people to take affordable driving trips to Delaware and Maryland beaches.

We suspect that some of the congestion is a result of the greater use of Global Positioning System (GPS) navigation systems and similar web-based services such as MapQuest and Expedia. The use of these devices tend to guide drivers to popular destinations using the same routes verses the use of maps in the past which gave drivers the option of multiple routes to a destination.

### **SR-1 Toll Route**

Toll bridges are installed on certain intermittent sections of SR-1. As a result; the motorists do avoid tolls at various locations throughout its length.

One location is at the Smyrna Rest Area which straddles both the local road and SR-1, which is a toll route there. Motorists can freely enter or exit the toll route at this location. For this reason toll revenues are not as high as would be expected.

Another location is at SR-1 Bridge over the Chesapeake and Delaware Canal in New Castle County. The Army Corp of Engineers maintains all bridges over the C& D canal and one of its agreements with Delaware is not to collect any tolls to use them. At this location, a lot of local traffic exits at the end of the bridge and proceeds to Route 13 to bypass the toll bridge for \$1.00 toll during the week and \$2.00 toll on weekends. Many out of state travelers are not aware of this and just continue on SR-1 toll bridge following their GPS navigation units installed on their vehicles.

The HPMS sample sections on SR-1 exceed the sample adequacy requirement. The reporting of data shall continue from all of those sample sections.

### **Delaware Transit Ridership Trend**

The table below shows that there was a significant change in Delaware Transit Ridership. Since 2000, there has been a net increase of 25.04% which exceeds the growth of total population at 12.50%.

| <b>Fiscal Year</b> | <b>Transit Ridership</b> | <b>Yearly Change</b> | <b>Cumulative % Change</b> |
|--------------------|--------------------------|----------------------|----------------------------|
| 2000               | 8,944,828                |                      |                            |
| 2001               | 9,260,336                | 3.53%                | 3.53%                      |
| 2002               | 9,045,281                | -2.32%               | 1.12%                      |
| 2003               | 8,785,314                | -2.87%               | -1.78%                     |
| 2004               | 9,224,929                | 5.00%                | 3.13%                      |
| 2005               | 9,602,722                | 4.10%                | 7.36%                      |



|      |            |        |        |
|------|------------|--------|--------|
| 2006 | 10,238,738 | 6.62%  | 14.47% |
| 2007 | 10,154,338 | -0.82% | 13.52% |
| 2008 | 10,556,609 | 3.96%  | 18.02% |
| 2009 | 11,184,706 | 5.95%  | 25.04% |

Source: Delaware Transit Corporation

### **Delaware Transit Service**

Higher fuel prices, congestion on the main travel routes in the urbanized areas, increasing travel times, and the rising cost of parking in central business districts are making transit a more viable alternative to driving. However, there is another significant component to the growth shown here. The figures in the foregoing include paratransit, which serves the elderly and persons with disabilities. Delaware Transit offers special discounts for seniors and the disabled. As the general population ages, the state of Delaware continues to attract retirees from other states, particularly to Sussex County, where the demand for paratransit is growing rapidly.

Given the economic conditions the Sussex County Chamber of Commerce and the Resort business community report a change in the public's travel behaviors, they are conducting day trips in lieu of an entire week for vacations and recreation. Along with their travel behavior, they are looking for more cost effective and efficient transportation alternatives, i.e. transit. For beach traffic, [Delaware Area Resort Transit](#) offers special discounts, and also free transfers to connect with Ocean City.

### **Delaware Gasoline Consumption/Revenue**

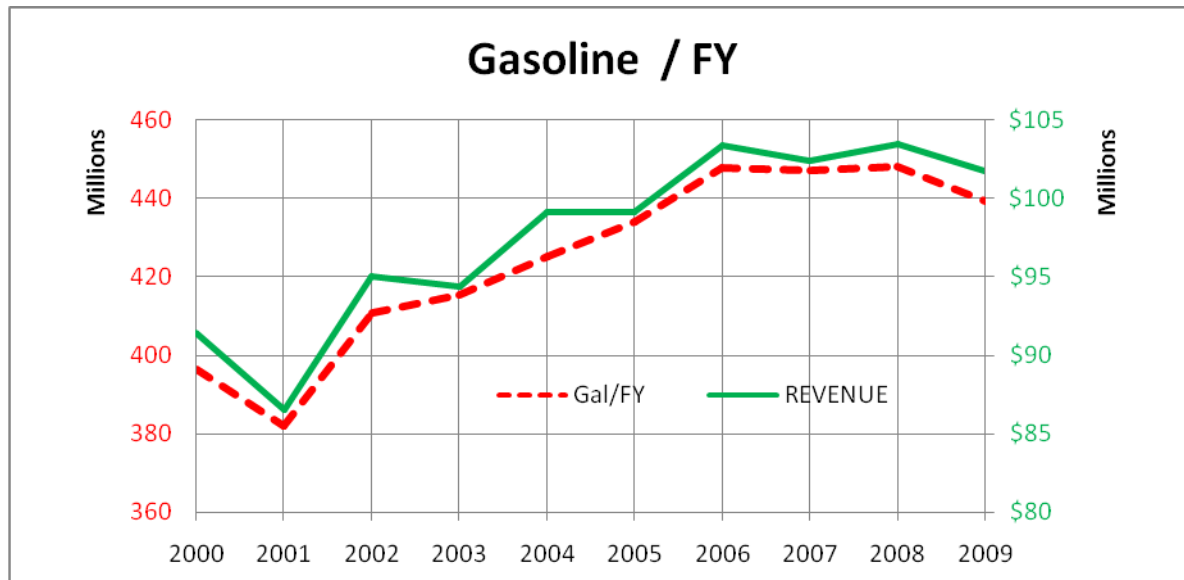
The following table and graphics show gasoline consumption and the state revenue collected from gasoline sales in the state from FY2000 to FY2009 (July 1-June 30).

Gasoline Consumption/Revenue

| FY   | GALLONS     | % BASE | %/Ann  | REVENUE       | % BASE | %/Ann  |
|------|-------------|--------|--------|---------------|--------|--------|
| 2000 | 396,439,626 | BASE   |        | \$91,426,164  | BASE   |        |
| 2001 | 382,107,442 | -3.62% | -3.62% | \$86,497,377  | -5.39% | -5.39% |
| 2002 | 410,727,263 | 3.60%  | 7.49%  | \$95,064,201  | 3.98%  | 9.90%  |
| 2003 | 415,364,330 | 4.77%  | 1.13%  | \$94,365,047  | 3.21%  | -0.74% |
| 2004 | 425,075,277 | 7.22%  | 2.34%  | \$99,145,271  | 8.44%  | 5.07%  |
| 2005 | 434,107,363 | 9.50%  | 2.12%  | \$99,162,587  | 8.46%  | 0.02%  |
| 2006 | 447,641,622 | 12.92% | 3.12%  | \$103,394,033 | 13.09% | 4.27%  |
| 2007 | 447,204,018 | 12.81% | -0.10% | \$102,382,062 | 11.98% | -0.98% |
| 2008 | 447,962,052 | 13.00% | 0.17%  | \$103,471,297 | 13.17% | 1.06%  |
| 2009 | 439,342,813 | 10.82% | -1.92% | \$101,714,025 | 11.25% | -1.07% |



Source: Michael J. Harrell, Motor Fuel Tax Administrator, DelDOT/DMV



Source: Michael J. Harrell, Motor Fuel Tax Administrator, DelDOT/DMV

With the increased volatility of fuel price during FYs 2007 through 2009, the consumption and the revenue remained relatively flat. Delaware had no change in the tax structure as it relates to motor vehicle fuels

A comparison of the average retail price of gasoline and diesel in Delaware and its neighboring states on May 25, 2010 is presented in the following tables.

#### Retail Average Gasoline Price on May 25, 2010

| State        | Regular | Mid    | Premium | Diesel |
|--------------|---------|--------|---------|--------|
| Delaware     | \$2.78  | \$2.96 | \$3.09  | \$3.03 |
| Maryland     | \$2.79  | \$2.97 | \$3.04  | \$3.04 |
| New Jersey   | \$2.71  | \$2.90 | \$3.01  | \$2.94 |
| Pennsylvania | \$2.80  | \$2.95 | \$3.08  | \$3.15 |
| National     | \$2.82  | \$2.98 | \$3.10  | \$3.08 |

Source: [Fuel Gauge Report](#)

It is observed that the motor fuel prices remained almost equal in Delaware and Maryland, and were slightly higher in Pennsylvania but slightly lower in New Jersey.

It is also observed that the sale of motor fuels declined by 1.07 % in 2009 over the previous year, while the annual vehicle-miles of travel increased by 0.92 % during the same period in Delaware.

Such a strange occurrence is attributed to the disparity in cigarette taxes in the neighboring states as presented below.

CIGARETTE TAXES (per pack)

|              |        |
|--------------|--------|
| Delaware     | \$1.60 |
| Maryland     | \$2.00 |
| New Jersey   | \$2.70 |
| Pennsylvania | \$1.60 |

Source: [Tobaccofreekids.org](http://Tobaccofreekids.org)

Because the cigarette tax is low in Delaware, it appears that the motorists from neighboring states are crossing the border into Delaware to purchase cigarettes and fill up gasoline to save money. The cigarette tax allures interstate motorists on I-95 passing through a small distance in Delaware to stop at rest area, purchase gasoline and cigarettes without adding much to the vehicle-miles of travel.

The truck traffic, as a percentage of AADT, has also shown a decline.

Delaware is a small state and many drivers traveling through the State on I-95, I-495, and I-295 are able to pass through the entire State without purchasing gas. In this age of internet access and instant media, the public is well aware of the gas prices in surrounding areas. There are always proposals to generate extra revenue by increasing most of its vehicle-related revenue including a possible increase in the state gas tax. However, it appears that the option of increasing state fuel taxes was not feasible for many reasons including a desire to maintain competitive pricing with surrounding states.

**On the Federal-Aid Apportionment**

HPMS data constitute one of the tools to determine Federal-Aid apportionments among the 50 states and D.C. The apportionment uses a formula-based principle. Delaware is one of the smallest states in terms of population, land area, NHS mileage, and vehicle-miles of travel. Because of this, Delaware suffers from being a “minimum apportionment” state.

Data provided under the Delaware Interstate Travel report, shows that the State’s Interstate lane mileage increased in 2008 from 253 to 261. Since the year 2000, Delaware’s Vehicle Miles Traveled remain stagnant. There are many possible reasons for these trends. One in particular is that certain key roads have been operating at an undesirable level of service especially during peak hour conditions. To reduce traffic demand during peak hours, toll increase and congestion pricing were contemplated, though not enacted.

By adding extra lanes in 2008 for most heavily travelled part of I-95, DelDOT has reduced the congestion on the I-95 corridor. But on account of the economic conditions, there was a 1.52% decline of DVMT on the Interstate routes in 2009. The decline of toll collection will affect the State's revenue for maintenance and operations.

The current interstate and intersection projects, mentioned further below in this section, have an estimated cost of more than \$326 million dollars. In the past, the delay and shifting of projects to later years often resulted in cost overruns because each year the cost of construction has continued to escalate. For a small state with limited resources, these overruns can result in a major financial burden, which limits the State's ability to undertake and fund essential projects.



### Indian River Inlet Bridge

Constructor Skanska USA Civil Southeast, Inc., teaming with designers AECOM Transportation, received the notice to proceed for work on the Indian River Inlet Bridge in September, 2008, and proceeded in earnest to design and begin building the cable-stayed bridge structure. The Designer continued to analyze and detail components of the structure beyond the pre-bid stage on to final design, with some elements, such as piles, completely designed and ready for construction by the end of 2008. As part of the complete design of the bridge, the Team has evaluated wind, scour, and geotechnical parameters, including complete wind-tunnel testing of a small-scale bridge model. These studies were completed in the first half of 2009. Additionally, the cable-stayed bridge component system has undergone rigorous tests to assure its strength and durability will meet criteria for the life of the structure. The bridge design has progressed according to schedule and was approximately 95% complete through 2009.

Shortly after the contract was awarded, test piles were installed and instrumented to provide additional information about the soil properties and best methods of foundation construction. Results from the test pile program were used in the on-going design of the structure. By the end of 2008, the precast yard was fabricating and casting the piles; this operation continued throughout 2009 and

eventually included precast girders as well. At the bridge site, the main-span bridge pylons have been on the critical path of construction with pile-driving operations occurring simultaneously on both sides of the Inlet through the summer of 2009. As tower construction continued through 2009, approach span foundations, approach abutments and piers, falsework, and cable-span superstructure construction commenced. Superstructure construction for the main span will continue in 2010 and early 2011, and include the use of an overhead traveling form system to cast full-width segments of the bridge over the waters of the Inlet without impeding public pedestrian as well as boating traffic below. The final deck closure pour over the inlet is expected towards the end of 2010 and the bridge is scheduled to be available for traffic by May 2011.

Karen Cormier, P.E.

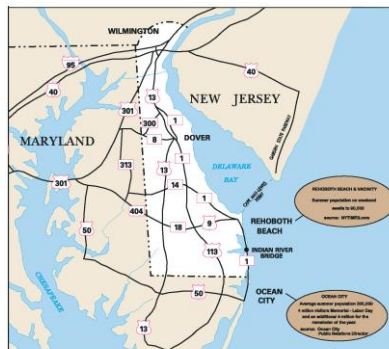
Assistant Project Manager

Indian River Inlet Bridge

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The Indian River Inlet Bridge, now on NHS, will serve the summer traffic between Rehoboth Beach and Ocean City, Maryland. The traffic demand is extremely high as the accompanying figures indicate.



**REHOBOTH BEACH & VICINITY**  
**Summer Population on**  
**Weekend Swells to 90,000**  
Source nytimes.com

**OCEAN CITY Average**  
**Summer Population 305,000**  
**4 million visitors Memorial-**  
**Labor Day and additional 4**  
**million for the remainder of the**  
**year Source: Ocean City Public**  
**Relations Director.**

Distance: 27.2 miles Approximate Travel Time: 50 minutes

### Three Major Projects

At present, DelDOT is working on three major projects which would cost \$1,488,192,500, upon completion. The table below shows the existing expenditure status. The 20% state match includes non-cash payments such as land acquisition, toll credits and long term bonds as well as federal stimulus funds. The state share at the conventional 80/20 split would be \$297,638,500. While these projects serve national travel needs, it represents an enormous capital burden for a small state.

| <b>Delaware's Current Major Transportation Projects</b> |                  |                       |                        |                           |
|---|------------------|-----------------------|------------------------|---------------------------|
| Dollars in thousands                                    |                  |                       |                        |                           |
| Project Title   | Est. Total Funds | Funds Spent<br>FY2009 | Funds Spent to<br>Date | Percent Funds<br>Expended |
| I-95 MD State Line to I-295                             | \$261,203        | \$30,588              | \$77,826               | 29.79%                    |
| Indian River Inlet Bridge                               | \$312,572        | \$44,597              | \$152,114              | 48.66%                    |
| US 301 and Spur Road                                    | \$914,417        | \$21,516              | \$45,441               | 4.97%                     |
| Total   | \$1,488,192      | \$366,701             | \$275,381              | 18.50%                    |

**Source:** Delaware Department of Transportation, Division of Finance, March 24, 2010.

Delaware has 6,307 total certified miles of roadway, out of which 4,748 miles of roads are not eligible for Federal-aid. Thus, a huge disproportionate length covering 75.70% of the state mileage is ineligible for any Federal-aid participation. In view of this, it seems a review is necessary to increase Federal-aid for highway improvements in a small state like Delaware.

### **U.S. 301, DE/MD State Line to SR1, South of the Chesapeake & Delaware Canal**

DelDOT is working on improvements to the U.S. 301 Corridor in Delaware, from the MD State Line to SR1, South of the Chesapeake and Delaware Canal. The existing U.S. 301 in Delaware is a two-lane highway with signalized and unsignalized access points. The corridor is experiencing congestion and increases in accidents caused by a growth in population in this area of New Castle County and the use of the roadway for regional traffic, including large percentages of trucks.

To address these short and long-term transportation needs, DelDOT, on behalf of FHWA, initiated an Environmental Impact Statement (EIS) in 2005, and evaluated alternatives consistent with the National Environmental Policy Act (NEPA). A Draft EIS was published in November 2006, with a Final EIS published in November 2007. A Record of Decision (ROD) was issued by FHWA on April 30, 2008. The ROD selected a four lane limited access highway, from the MD State Line to SR1, and a two lane "spur" from the Armstrong Corner Road area to connect to the Summit Bridge over the Canal. The Selected Alternative, Green North + Spur, is shown below:



Design of the project was started in the fall of 2008. The design and right-of-way process is expected to be complete by 2011. Construction of the project could potentially begin in 2012.

The Selected Alternative will reduce traffic congestion and improve highway safety by removing through traffic, especially heavy truck traffic, from local roads in the rapidly developing area. The project will improve the current road conditions and will also promote the safety, health and general welfare of the citizens in this area and those that are traveling through the region. (Source: Diane Bernardo, U.S. 301 Project Engineer, DelDOT)

### **Transportation Challenges**

Because of the increasing demands on the State's transportation system, limited resources for the design and construction of necessary projects to improve safety and provide needed mobility, and increases in the costs of land acquisition, labor and raw materials needed to construct and maintain a variety of transportation improvements, the State may be unable to provide, on a timely basis, key projects identified in the Department's Capital Transportation Program.

To help meet transportation needs a new revenue package was implemented in fiscal 2008 and included toll increases on both of Delaware's toll roads, as well as several Division of Motor Vehicle fee increases. A new non-pledged revenue source was also added to the Trust Fund in the form of a 50% surcharge on traffic violation fines.

### **Current Financial Plan**

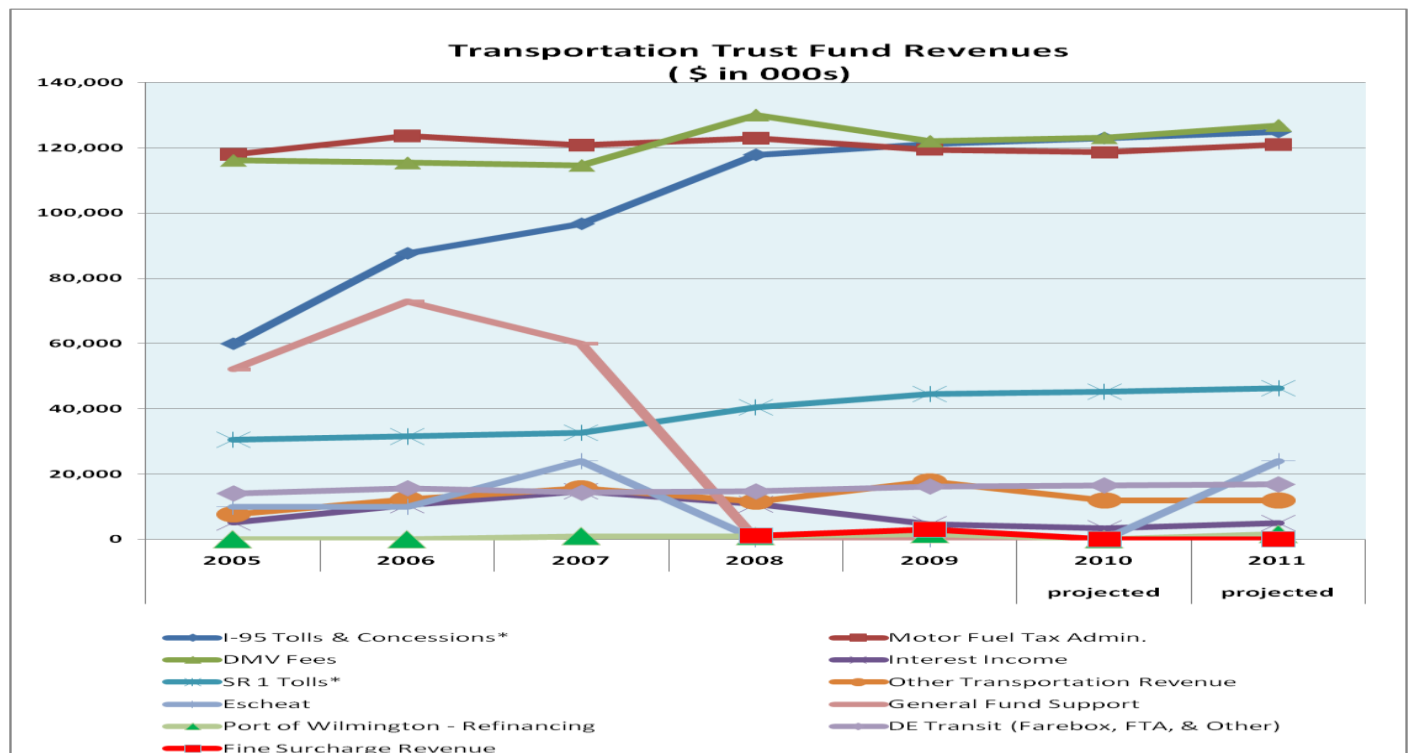
The revenue sources are combined with the proceeds of the Transportation System Revenue Bonds and support from the federal government to fund the Department's total transportation budget -

### Transportation Trust Fund Revenues

(\$ in 000s)

| State Fiscal Year                          | 2005           | 2006           | 2007           | 2008           | 2009           | projected 2010 | projected 2011 |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Pledged Revenues</b>                    |                |                |                |                |                |                |                |
| I-95 Tolls & Concessions*                  | 60,021         | 87,696         | 96,748         | 117,869        | 121,225        | 123,000        | 124,900        |
| Motor Fuel Tax Admin.                      | 117,917        | 123,714        | 120,804        | 122,866        | 119,467        | 118,600        | 121,000        |
| DMV Fees                                   | 116,180        | 115,415        | 114,629        | 130,079        | 122,035        | 123,100        | 126,900        |
| Interest Income                            | 5,207          | 10,523         | 14,774         | 10,776         | 4,673          | 3,400          | 5,000          |
| <b>Total Pledged Revenues</b>              | <b>299,325</b> | <b>337,348</b> | <b>346,955</b> | <b>381,591</b> | <b>367,400</b> | <b>368,100</b> | <b>377,800</b> |
| <b>Non-Pledged Revenues</b>                |                |                |                |                |                |                |                |
| SR 1 Tolls*                                | 30,563         | 31,524         | 32,606         | 40,509         | 44,497         | 45,200         | 46,300         |
| Other Transportation Revenue               | 7,597          | 12,196         | 15,704         | 11,559         | 17,700         | 11,900         | 12,000         |
| <b>Total Non-Pledged Revenues</b>          | <b>38,160</b>  | <b>43,720</b>  | <b>48,310</b>  | <b>52,068</b>  | <b>62,197</b>  | <b>57,100</b>  | <b>58,300</b>  |
| <b>Other Sources</b>                       |                |                |                |                |                |                |                |
| Escheat                                    | 10,000         | 10,000         | 24,000         | 0              | 0              | 0              | 24,000         |
| General Fund Support                       | 52,100         | 72,869         | 60,000         | 0              | 0              | 0              | 0              |
| <b>DNREC Reimbursement - White Clay</b>    |                |                |                |                |                |                |                |
| Port of Wilmington - Refinancing           | 0              | 0              | 1,000          | 1,000          | 1,618          | 0              | 1,628          |
| DE Transit (Farebox, FTA, & Other)         | 14,100         | 15,676         | 14,332         | 14,705         | 16,219         | 16,543         | 16,874         |
| <b>Fine Surcharge Revenue</b>              |                |                |                | 1,184          | 3,056          | 0              | 0              |
| <b>Property Sale Revenue (Not Graphed)</b> |                |                |                | 0              | 0              | 0              | 0              |
| <b>Total All Sources</b>                   | <b>413,685</b> | <b>479,613</b> | <b>494,597</b> | <b>450,548</b> | <b>450,490</b> | <b>441,743</b> | <b>478,602</b> |

FY2010 and FY2011 DEFAC Forecast, December 2009



both operating and capital. The Department updates its six-year financial plan concurrent with the preparation of the annual operating and capital budgets.

The current financial plan assumes that the existing sources of revenues will meet projections without any further increases in the rates or fees. In the event revenues or other sources fall short of projections, the Department will either request additional revenues from the General Assembly, reduce the transportation program or a combination of both.

### **The Economic Impact**

Delaware, known as the First State, is also first in providing a pro-business climate. It is a corporate state where nearly 6 out of 10 Fortune 500 companies are incorporated. Delaware has been the home of the world famous DuPont and other large chemical industries. The major north-south divided highway passing through the state, from Maryland to Pennsylvania, is the historic DuPont Highway. There are automobile manufacturing plants in Delaware. Credit card operations have been lucrative businesses in the banking sector of the state. Slot machines also play a major role in generating revenues for the state. Moreover, Delaware is a major shopping attraction for consumers from all over, because there is no sales tax in Delaware.

However, the downturn in economy, nationwide, over the past two to three years has taken its toll in the state. Automobile manufacturing facilities have closed in the state. While economists are forecasting a pick-up in growth for the U.S., layoffs, pay cuts, consolidation, and closures of business and industry continue to persist. Bank failures are too many. Elegant Wilmington Waterfront condos are now up for sale at significantly reduced prices. Losses in hotel tax revenue, highway tolls, and jobs in the retail sectors, have affected the economy.

High unemployment and a lack of consumer spending continues to result in a decline in state revenues. Although the budget crisis is not as serious as it was last year in Delaware, the revenues still kept pace with necessary expenditures. The Transportation Trust Fund continues to be significantly underfunded. This results in our inability to provide minimal maintenance of our highway infrastructure. Unable to receive their share of the revenues, local governments lacked funds even to remove snow from streets during the last winter.



The state will receive Federal-Aid Apportionment based on the HPMS Report presented herein, but the state participation is essential in most projects. Also, there are public highways and streets in need of improvements, which are not on the Federal-Aid System, and will need 100 % state participation. There are limited funds to carry out essential highway improvement projects in the state.

To marginally sustain the highway program, perhaps an option will be to look for non-traditional sources of revenue or a temporary increase in fuel taxes.

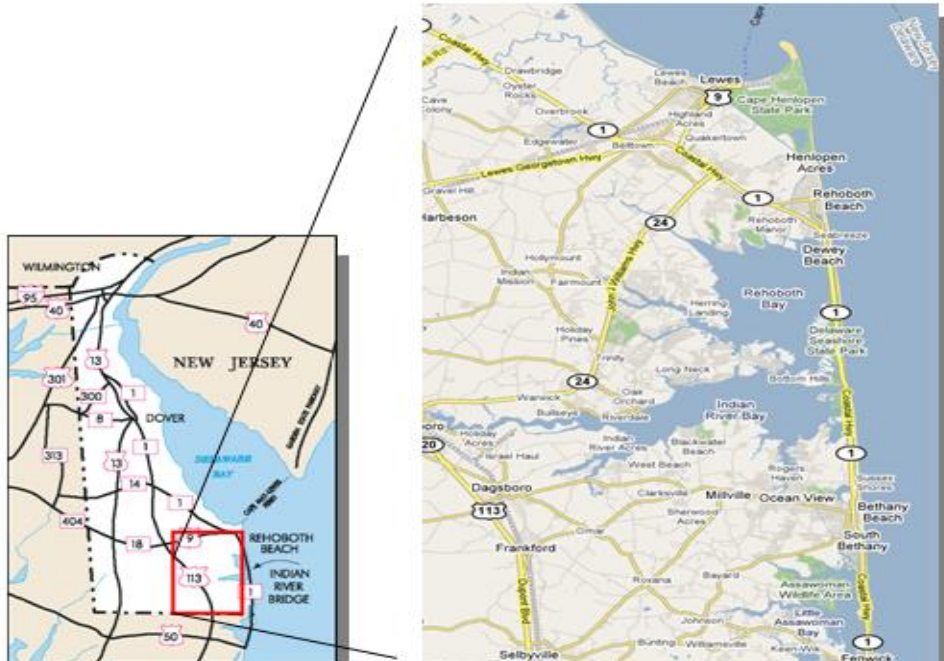
### **Delaware Scenic Coastal Highways & Global Warming**

There are approximately 117 miles of coastline on the east side of Delaware. Except for a small stretch in the middle, the coastline is served by interconnected roads and two major highways: SR-9 on the north and SR-1 on the south running as an Arterial Highway into Ocean City in Maryland.

State Route 9 is a 52-mile road that runs from the historic City of New Castle to south of Dover Air Force Base mostly along the western shore of the Delaware River and Bay. It passes over the C & D Canal and through communities such as Delaware City and Leipsic. There are lush green farm fields that stretch for miles along this route. Moreover, the corridor of SR-9 contains the largest area of preserved coastal marshland, nearly 50,000 acres, on the east coast. Surrounded by natural beauty, Delaware Route 9 was recently named “Coastal Heritage and Scenic Byway” by the State of Delaware.

With the Reedy Point Bridge over the C & D Canal, State Route 9 also serves as a north-south connector in addition to SR-896, US 13, and SR-1 in the state. This route relieves traffic congestion from its parallel routes. This route also has the potential to serve vehicular traffic by boat to and from New Jersey across the Delaware River. With the National Park along the C & D Canal in the planning, the future development of SR-9 is apparent.

State Route 1 on the south serves the coastline alongside the Atlantic Ocean in Delaware. The ocean view coastline is about 25 miles from historic Lewes to Fenwick Island through Rehoboth, Dewey Beach, and Bethany Beach. This stretch of coastline is lined with captivating sand beaches that attract sun worshippers from all over the region. Three state parks are located here within 12 miles of the beachfront. The resorts, comprising Lewes, Rehoboth Beach, Bethany Beach, and Fenwick Island are devoid of high-rise buildings as each retains a small-town charm.



In “Global Warming Effects on Delaware Wildlife”, the National Wildlife Federation has reported that the sea level near Lewes has risen about one foot in the last 100 years. The Federation also predicts that there would be 23 inches additional rise in sea level near Lewes by 2100 ([globalwarming@nwf.org](mailto:globalwarming@nwf.org) ). The Philadelphia District of the US Army Corps of Engineers (USACE) has recently completed two beach nourishment projects here to protect the desirable beach width. The USACE also has a three-year beach nourishment program for the protection of these ocean beaches from tidal storm.



Storm Bethany Beach Nov 2009/ [www.townofbethanybeach.com](http://www.townofbethanybeach.com) Pennsylvania Ave DEL 1/ [www.townofbethanybeach.com](http://www.townofbethanybeach.com)

Apart from cyclic beach protection projects, the Delaware coastline is vulnerable to “Nor’easter” storms. There is a severe loss to tourism, local business, homeowners, wildlife, wetlands, and [significant damage to SR-1](#) whenever this calamity strikes the Delaware coastline. DelDOT expends considerable resources to repair the damages to SR-1 after a Nor’easter storm. Unfortunately, there is no provision in the Federal-aid Apportionment formula to provide for damages to roadways as a result of Nor’easters.

There is also severe traffic congestion in the SR-1 Corridor near the coastline, particularly during the summer months. DelDOT provides Resort Transit Service with extra buses from Memorial Day to mid-September to alleviate traffic congestion in this area. There are also Park & Ride Free plus Bikes on Buses provisions by DelDOT to mitigate traffic problems. Nonetheless, certain signalized intersections lack capacity in this corridor.

### **Congestion Management in Delaware**

Traffic congestion in Delaware is managed principally by the Delaware Department of Transportation (DelDOT), which is responsible for 86.30 percent of the lane-miles in the state. Also, there are two MPOs in the state: WILMAPCO and Dover / Kent County MPO. Only WILMAPCO maintain federally mandated congestion management systems (CMS) in collaboration with DelDOT.

### **Traffic Impact Studies (TIS)**

Developer-funded capital projects tend to be small improvements such as turning lanes at intersections but can be larger, especially where the efforts of two or more developers can be coordinated. The need for these projects is typically identified through TIS and they are typically required as conditions for plan approval. DelDOT’s Development Coordination Section, in the Division of Planning, works with local governments to require TIS and the improvements. In calendar year 2009, DelDOT reviewed 9 TIS, 2 in New Castle County, 2 in Kent County and 5 in Sussex County. Most of these

resulted in at least some off-site improvements being required of the developers whose projects were addressed in those studies.

Significantly, the number of TIS reviewed has declined 69 percent, from 29 in calendar year 2008 (37 in calendar year 2007). This drop, and an associated decline in the number of road improvements identified as being needed, can largely be attributed to the present economic situation. There have also been noticeably fewer scoping meetings held for TIS for proposed developments. Another factor, however, has been changes in New Castle County's land development regulations. To encourage the redevelopment of previously developed parcels, as opposed to the development of rural areas, the County has exempted redevelopment projects from their TIS regulations and DelDOT, in support of the County's planning efforts has agreed to not require TIS for such projects either. In 2009, DelDOT reviewed traffic operational analyses (TOAs) for two developments in New Castle County that would have required TIS were it not for that change in the regulations. TOAs can result in off-site improvements but are focused on operations, e.g. sight distance and queue storage, rather levels of service.

On December 21, 2007, DelDOT adopted revised regulations pertaining to subdivision streets and state highway access. These regulations included revised regulations for TIS. Among other changes, DelDOT lowered the volume warrants for when a TIS should be required, from 2,100 trips per day for residential developments and 3,100 trips per day for commercial developments to 400 trips per day for any development.

To aggregate the smaller developments, those generating less than 2,000 trips per day have the option of contributing to a larger, area-wide study rather than doing a TIS of their own. In 2009, 12 developments chose this option. Four agreed to pay the area-wide study fee in New Castle County, three agreed to pay it in Kent County and five agreed to pay it in Sussex County. Agreement is noted here rather than actual payment because the requirement for a TIS, and therefore the decision to pay the fee, frequently occurs in the rezoning process, but the fee is not collected until the start of the record plan process, sometimes a year or more later.

The revised regulations can be found in DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access. They are available on-line at [http://www.deldot.gov/information/pubs\\_forms/manuals/subdivisions/pdf/standards\\_and\\_regulations\\_031108.pdf](http://www.deldot.gov/information/pubs_forms/manuals/subdivisions/pdf/standards_and_regulations_031108.pdf).

TIS are also used as the primary source of information for the (Congestion Management System (CMS) maintained by Delaware's two MPOs; the Wilmington Metropolitan Planning Council (WILMAPCO) and the Dover Kent MPO. The CMS is used by the MPOs to identify and address congestion more comprehensively. WILMAPCO staff with DelDOT and local government participation manages the WILMAPCO CMS. Because the Dover Kent MPO has a smaller staff, DelDOT plays a greater role in helping them develop and update their CMS.

TIS reviews are performed by:

T. William Brockenbrough, Jr., P.E., AICP  
County Coordinator  
DelDOT Development Coordination

## **2. WILMAPCO Congestion Management System (CMS)**

The main goal of the Wilmington Area Planning Council's (WILMAPCO) Congestion Management System (CMS) report is a "systems" approach to identifying and addressing congestion in our region. With this approach, the existence of congestion in the transportation system can be seen in more of a regional (or national) context and it becomes apparent how slight changes at a specific location can impact the operation of the transportation system as a whole. It has been produced annually since 2001, with the exception of 2006. The 2008 CMS uses a "Summary-Style" approach that has been designed to focus on the core functions of what a CMP is to perform. The goal was to create a more streamlined, data-oriented summary that serves as a resource for use in other Metropolitan Planning Organization (MPO) documents. The report has four key sections:

### **Section #1: Congestion Definition and Corridor Identification**

#### **Congestion Definition**

Due to constraints in data collection, the network has been limited to all roadways classified as Minor Arterial or greater according to the FHWA functional classification network. The CMS uses a series of performance measures to evaluate the current congestion level of our most traveled roadway network. Currently, performance measures used in the congestion identification analysis in this report is limited to roadway and transit (bus) congestion due to reliable data constraints. Those measures used include:

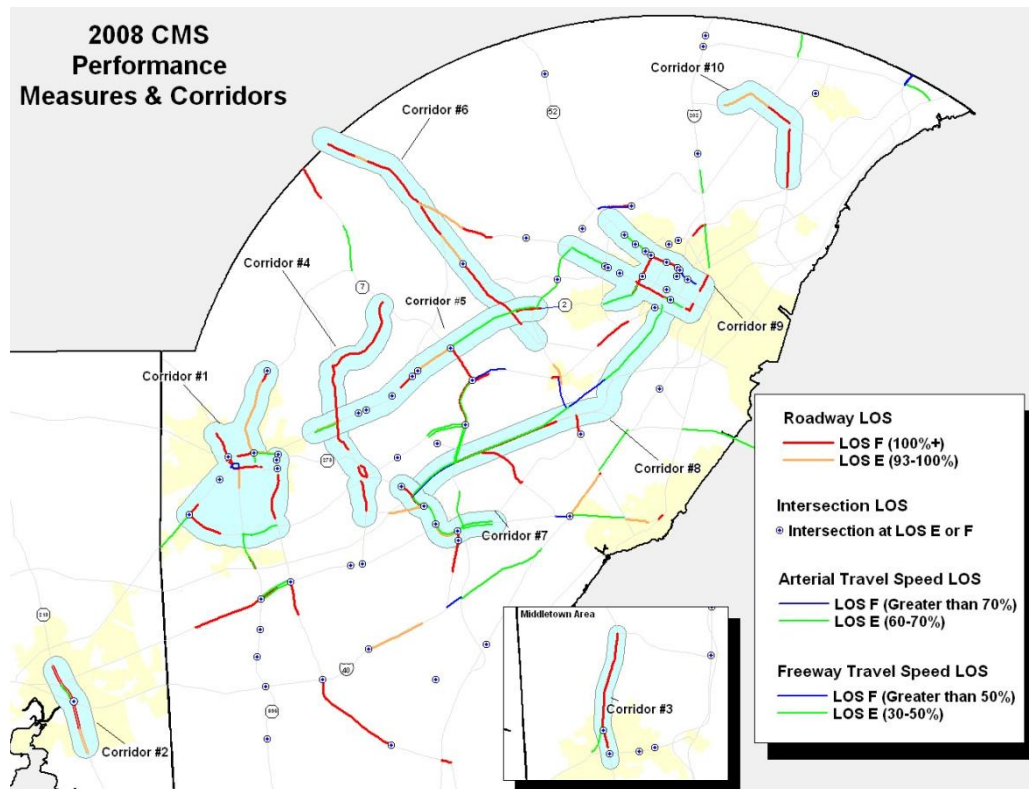
- Roadway Volume to Capacity Ratio
- Intersection Level of Service
- Roadway Travel Speeds vs. Posted Speed Limit
- Bus Load Factor (V/C ratio) by Road Segment

#### **Corridor Identification**

Using the four performance measures, the final step in the process is to delineate specific congested corridors. Members of the CMS Subcommittee identified these corridors with criteria that analyzed congestion density (number or frequency of adjacent congested segments and/or intersections) and predominant travel patterns.



## Section 2: Strategy Evaluation



Potential strategies to reduce congestion have been assembled in a “toolbox” designed to provide the appropriate solutions for each corridor. Within each of these strategies, specific mitigation measures are outlined and described in detail. This package of solutions to congestion includes measures involving all modes of transportation as well as encouraging more efficient patterns of land use and development.

### WILMAPCO CMS “TOOLBOX” STRATEGIES:

- Strategy #1:** Eliminate person trips or reduce VMT during peak hours
- Strategy #2:** Shift Trips from Automobile to Other Modes
- Strategy #3:** Shift Trips from SOV to HOV Auto/Van
- Strategy #4:** Improve Roadway Operations
- Strategy #5:** Add Capacity

A key component in WILMAPCO’s “top-down” approach ensures that solutions which would eliminate or shift auto trips or improve roadway operations are evaluated before adding roadway capacity.

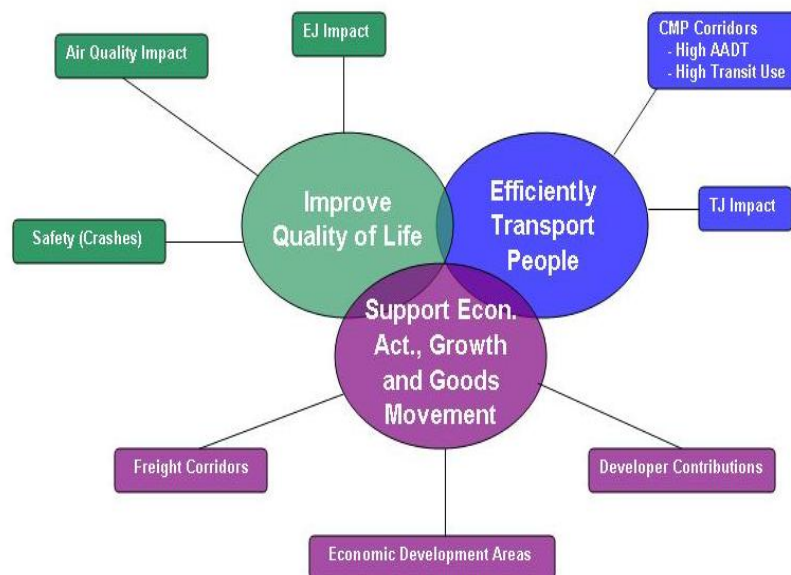
### The WILMAPCO CMS and the Project Prioritization Process

Spurred by a plethora of unfunded transportation projects in our 2030 Regional Transportation Plan (RTP) and the desire for more transparency in project selection, WILMAPCO developed a technical process to score, and ultimately help rank projects for funding. Known as the “Project

Prioritization Process,” transportation projects are scored against criteria tied to the overall goals of our RTP: Improve Quality of Life; Transport People and Goods; and Support Economic Growth and Activity.

As shown in the image below, measures such as a project’s impact on air quality, sensitive neighborhoods (Environmental and Transportation Justice), or location along a freight route are considered. Projects receive points if they support these criteria, or can have points deducted if they do not. For example, a major commuter rail project would receive the maximum of three possible points for air quality, as it would promise to reduce automobile emissions. By contrast, an interstate interchange project located in a low-income/minority neighborhood would receive the maximum of three negative points for Environmental Justice, as it would introduce noise, pollution and traffic into the community.

### WILMAPCO Project Prioritization Process & Criteria



A project's presence within an identified CMS corridor can boost its score greatly. Projects within a CMS corridor automatically receive two points. They are then qualified to receive up to four points if the traffic volumes are high and up to three points if the capacity of the location's fixed-route transit service is too. With nine points out of a possible 33, CMS is the single most heavily-weighted factor in the prioritization process.

After technical scores are calculated, qualitative considerations may be introduced to adjust a project's final ranking. These include the urgency of the project, or its cost-effectiveness. For a more detailed overview of the WILMAPCO Prioritization Process with full point breakdowns, please visit: [www.wilmapco.org/RTP](http://www.wilmapco.org/RTP).

Putting the scoring system into practice, the table below lists the technical scores of projects in the FY2009-2012 Transportation Improvement Program (TIP) which fell within a CMS corridor. The TIP is a four-year funding program with over \$1.2 billion in transportation projects. Below is a breakdown of the congestion-based scoring criteria used in the adopted WILMAPCO prioritization process.



### Top FY 2010-13 TIP Projects Based on CMS Criteria from the WILMAPCO Prioritization Process

|     | Project   | Project Type | CMS Proximity Score | CMS AADT Score | CMS Transit Score | Total Score | CMAQ Eligible? |                |
|-----|---|--------------|---------------------|----------------|-------------------|-------------|----------------|----------------|
| #3: | 1 I-95 & SR 141 Interchange   | Expressways  | 2                   | 4              | 3                 | 9           |                | Section System |
|     | 2 I-95 & SR 1 Interchange   | Expressways  | 2                   | 4              | 3                 | 9           |                |                |
|     | 3 Rail: Newark to Wilmington Track Expansion                          | Transit      | 2                   | 4              | 3                 | 9           | Yes            |                |
|     | 4 I-95 / US202 Interchange  | Expressways  | 1                   | 4              | 3                 | 8           | Yes            |                |
|     | 5 SR 1, Tybouts Corner to SR 273, Widening to 6 lanes                 | Expressways  | 1                   | 4              | 3                 | 8           |                |                |
|     | 6 SR 2: S. Union Street   | Arterial     | 2                   | 2              | 3                 | 7           |                |                |
|     | 7 Aeronautics, New Castle County Airport Terminal Improvements        | Other        | 1                   | 4              | 2                 | 7           |                |                |
|     | 8 Churchmans: BR 234 Pedestrian Improvements                          | Bike Ped     | 2                   | 2              | 3                 | 7           | Yes            |                |
|     | 9 Transit Vehicle Replacement and Refurbishment, New Castle County    | Transit      | 2                   | 2              | 3                 | 7           | Yes            |                |
|     | 10 SR 141 & US 13 to Burnside Blvd. Widening                          | Arterial     | 1                   | 4              | 1                 | 6           |                |                |
|     | 11 Transit Vehicle Expansion: Bus Route 301                           | Transit      | 1                   | 2              | 3                 | 6           | Yes            |                |
|     | 12 SR 7/US 40: SR 7, Newtown Rd. to SR 273                            | Arterial     | 2                   | 2              | 1                 | 5           |                |                |
|     | 13 Churchmans: SR4/Harmony Rd.  | Arterial     | 1                   | 2              | 2                 | 5           | Yes            |                |
|     | 14 SR 4, Christina Parkway: SR 2, Elkton Rd. to SR896, S. College Ave | Arterial     | 2                   | 2              | 1                 | 5           |                |                |
|     | 15 US 40: Eden Square Connector                                       | Arterial     | 1                   | 2              | 2                 | 5           |                |                |
|     | 16 Wilmington Traffic Calming: Walnut: MLK Blvd. to 16th              | Collector    | 2                   | 2              | 1                 | 5           |                |                |
|     | 17 I-95: Carr Road/Marsh Rd. Interchange                              | Expressways  | 2                   | 3              | 0                 | 5           |                |                |
|     | 18 Bicycle, Pedestrian: Pomeroy                                       | Bike Ped     | 2                   | 2              | 1                 | 5           | Yes            |                |
|     | 19 Transit Vehicle Expansion: Middletown/Glasgow/Newark               | Transit      | 2                   | 2              | 1                 | 5           | Yes            |                |
|     | 20 Transit Vehicle Expansion: 301 MIS                                 | Transit      | 2                   | 2              | 1                 | 5           | Yes            |                |
|     | 21 US 40: Transit improvements  | Transit      | 1                   | 2              | 2                 | 5           | Yes            |                |
|     | 22 Rail Improvements: Fairplay Station Parking                        | Transit      | 2                   | 0              | 3                 | 5           |                |                |
|     | 23 SR 2, Elkton Rd., Casho Mill Rd. to Delaware Ave.                  | Arterial     | 2                   | 2              | 0                 | 4           |                |                |
|     | 24 SR 2, Elkton Rd., Maryland State Line to Casho Mill Rd.            | Arterial     | 2                   | 2              | 0                 | 4           |                |                |
|     | 25 Wilmington Riverfront: Christina River Bridge                      | Collector    | 1                   | 0              | 3                 | 4           |                |                |
|     | 26 US 301: MD Line - SR 1, and Spur                                   | Expressways  | 2                   | 2              | 0                 | 4           |                |                |
|     | 27 Transit Vehicle Expansion, NCC                                     | Transit      | 1                   | 2              | 1                 | 4           | Yes            |                |

### Monitoring

The fourth and final step in the development of the CMS, the task of monitoring the system, tracks the effectiveness of the CMS recommendations over time and allows us to see where new problems might arise. This section displays series of data analyses designed to help decision makers get a sense of the changing conditions of our region and their impact on our network. Analysis in this section includes:

- Programmed Projects along identified CMS corridors
- Crash Analysis & Trends
- Crash Analysis— Roadway Segments
- Crash Analysis—Intersections
- Impact of Freight on the CMS Network
- Mean Peak Travel Speed Changes
- Traffic Volume Changes

#### **Section #4; Congestion Mitigation Activities**

The following section is designed to chronicle the effectiveness of some of the congestion mitigation strategies discussed in the strategy evaluation section of this document. This is now possible as a result of the numerous data collection efforts performed by WILMAPCO and its member agencies. With a well established base of annual data, the ability to see trends that have developed. The analysis in this section gives some insight on the linkage between where certain congestion mitigation measures are more effective than others.

- Transit Performance
- Non-Motorized Facilities
- Intelligent Transportation Systems (ITS)
- Park & Ride / Park & Pool Lot Inventory
- Transportation Management Activities

#### **WILMAPCO CMS Subcommittee**

The CMS is developed by the WILMAPCO Congestion Management Subcommittee and assembled by WILMAPCO staff. WILMAPCO staff coordinates with all agencies of the subcommittee for various activities regarding the report such as data collection, review of performance measures and review of potential congestion mitigation strategies. Currently the subcommittee consists of members from DelDOT, Maryland State Highway Administration (MDSHA), Delaware Transit Corporation (DTC), New Castle County Land Use Department, City of Wilmington, TMA Delaware, Maryland Department of Planning, Delaware Office of State Planning Coordination and a member of the WILMAPCO Public Advisory Committee.

For more information regarding the CMS or to download the latest version, visit <http://www.wilmapco.org/cms>

Source: Daniel Blevins

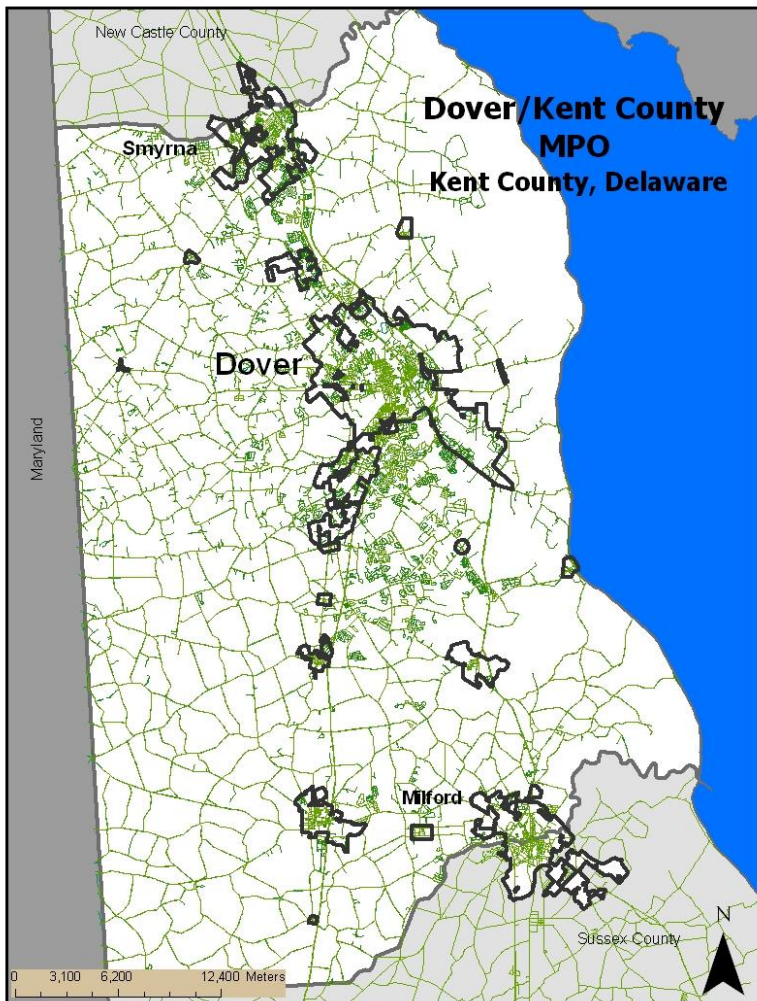
Principal Planner

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### **Dover/Kent County MPO Congestion Management**



CMS is not required for MPO's with urban area populations of less than 200,000 persons. The MPO's CMS is managed by the Delaware Department of Transportation (DelDOT) to collect and analyze the data and identify congested intersections and segments. The MPO does, however, define a congested intersection as having an overall level of service (LOS) of F.

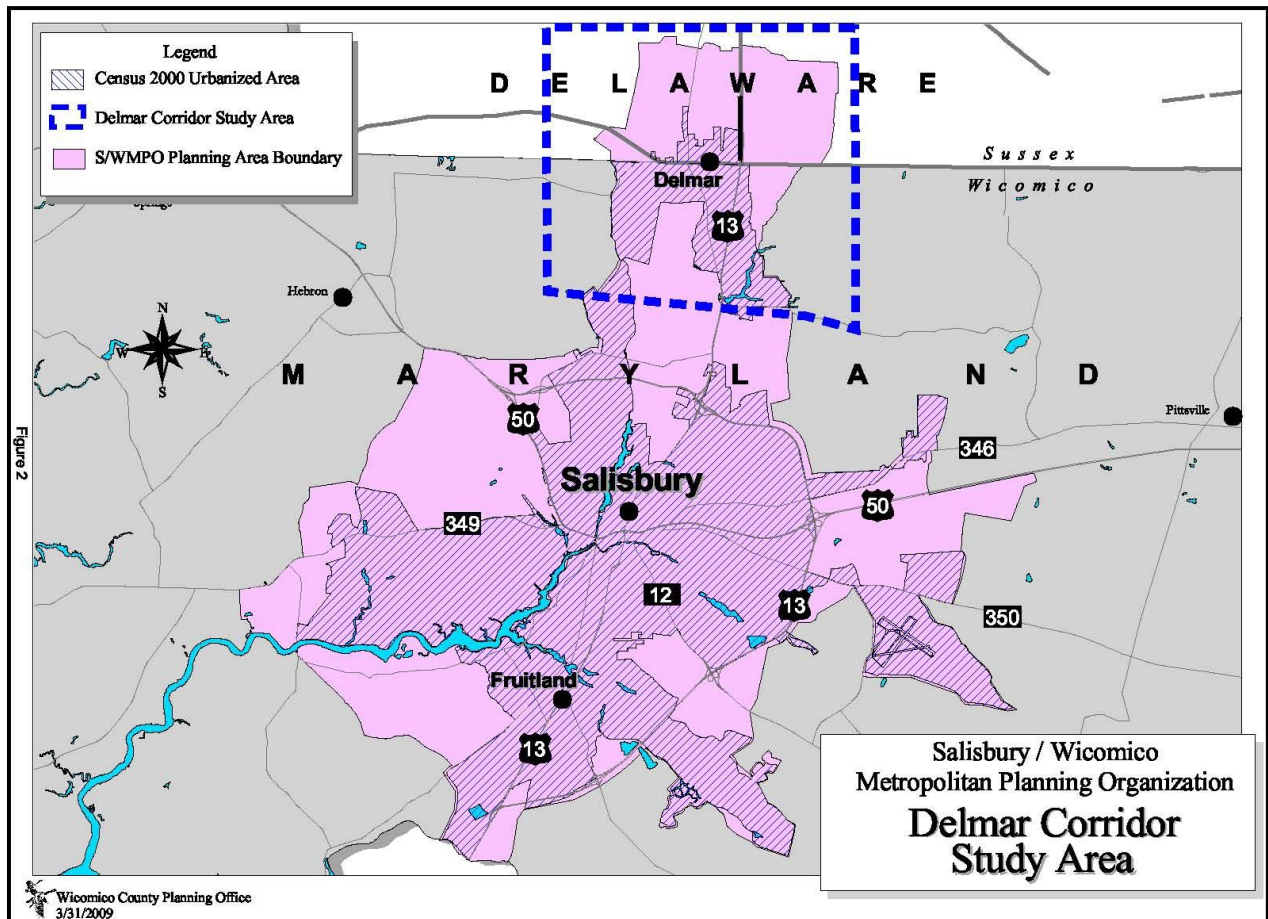
### **Congestion Management Projects**

There are two intersections that are identified as congested intersections: Division Street (DE 8) at US 13 and Loockerman Street at US 13. The DE 8 at US 13 is included in the 2009-2014 Comprehensive Transportation Program (CTP) as a Highway Safety Improvement Program (HSIP) project. Two other projects that may be considered as addressing congestion management are the grade separated intersections on SR 1 at Little Heaven and at Thompsonville Road. The projects, while being implemented to provide safe intersections, remove the two remaining traffic lights on SR 1 north of Milford.

To date, the CMS has not been a factor in the MPO's priority process. The MPO continues to work with DelDOT to monitor the situation to determine if there are periodic changes that are to be reconciled. We continue to cooperate to identify performance measures that should be incorporated into the scoring system that determines priorities and that may be used as an indicator performance measure.

Source: James J. Galvin, Jr. AICP  
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**Salisbury/Wicomico Metropolitan Planning Organization (including Delmar, DE)**



**Salisbury/Wicomico Metropolitan Planning Organization (including Delmar, DE)**

As a result of the 2000 Census, the urbanized area of Salisbury, Maryland reached the 50,000-population threshold that requires establishment of an MPO. This new Salisbury/Wicomico MPO (S/W MPO) includes Delmar, DE, and a portion of Sussex County that is adjacent to Delmar. It is expected that some other areas of Sussex County will meet the 50,000-population threshold after the next census in 2010.

A Congestion Management System or Process is not required for MPOs with a population less than 50,000. When initially established, the S/W MPO had a population of approximately 60,000. Although a Congestion Management System is not required, the MPO has undertaken detailed transportation corridor studies for areas that are experiencing significant development pressures and increased congestion. Five transportation corridors have been identified as requiring further study.

One of these is the “U.S. Route 13 North/Bi-State Boulevard Corridor”. This Corridor’s Study Area shown on the attached map. The study analyzes land use patterns in the Study Area and determines their impacts on U.S. Route 13 and Bi-State Boulevard primarily in the Maryland portion of the MPO, but also includes the intersections of each road with Route 54, which passes mostly along the boundary line between Delaware and Maryland. The analysis comprises existing traffic and roadways based on development trends and anticipated development, estimates projected Levels of Service for the years 2010, 2020 and 2030. The study was substantially completed in September 2009. Once finally completed, the results of the study will be provided to the Maryland Department of Transportation, the Delaware Department of Transportation, and the Town of Delmar. Each of these jurisdictions has affected roads within the study area. The study will recommend road improvements, where necessary, to ensure that congestion levels are at an acceptable level. The jurisdictions can use these recommendations to program future improvements, subject to funding availability.

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### **Delaware MPOs**

Delaware is a small state with only 3 MPOs. DelDOT coordinates with these agencies on congestion management, related funding needs, and other transportation issues.

The contact person in charge of coordinating with MPO’s and congestion mitigation in DelDOT is:

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DelDOT Statewide & Regional Planning  
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### **Recommendations for Congestion Management**

Electronic billboards should be installed at major parking centers to advise the availability of parking for motorists. The use of smart technology can help in such effort.

Shopping centers and casinos should increase bus service for visitors from other states. This will not only reduce congestion, but increase revenues as well.

A public-private partnership may be needed to provide more ferry service across the Delaware River to and from New Jersey to relieve traffic congestion on the Delaware Memorial Bridge and I-95. Also, the addition of public-private partnership to transit services may be desirable for relieving congestion in urban areas.

### **Air Quality Program**

Pursuant to Section 176 (c) of the Clean Air Act Amendments of 1990 and the Transportation Conformity Rule as enacted by SAFETEA-LU, all federally mandated state air quality analyses of transportation related emissions will use HPMS derived assignments of roadway mileage. This federal requirement manages to standardize the measurement of VMT by state nationwide making transportation related emission measurements equitable from one state to another. The State of Delaware makes use of HPMS based roadway data when analyzing conformity to the State Air Quality Implementation Plan (SIP) for updates or amendments to Transportation Improvement Programs (TIPs) and Regional Transportation Plans (RTPs). Delaware based HPMS data are also employed in developing the SIP itself. During calendar year 2008, the Delaware Department of Transportation conducted three conformity determinations on TIP and RTP amendments for the New Castle County MPO by providing roadway mileage data, speeds and seasonal adjustment factors as input to the 2008 and 2009 Ozone Rate of Progress and Attainment SIPs from the HPMS database.

Mark Glaze, Air Quality Program Manager  
Delaware Department of Transportation  
(302) 760-2529  
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### **HPMS data Compilation**

Delaware is a small state consisting of 1954 square miles, which ranks 49<sup>th</sup> in the land area and 45th in population, estimated at 881,532 persons in 2009.

The entire data, as being submitted, were collected, compiled, and presented in the U.S. Customary Units. There is no plan in DelDOT to convert to metric system in the foreseeable future.

There are only two full time staff members in the department to gather road inventory and field data. During 2009, the suburban and municipal street mileages were increased by 10.35 and 4.91 miles respectively. Although these streets are ineligible for federal-aid apportionment, the revised inventory was essential for an increase in the authorization of suburban and municipal street-aid funds of the state. The Suburban and Municipal Street data are coded and traffic volumes estimated on engineering judgments.

The traffic count is contracted to Chaparral, a traffic monitoring consultant in New Mexico. Accordingly, the traffic counting schedule is prepared one year in advance.



Stormy weather mixed with heavy rains creates coastal flooding and traffic diversions and detours take high priority. As a result, some ATR stations periodically malfunction.

There is no HPMS field crew in Delaware, and therefore, some data are not made available until just before the due date for reporting the HPMS data. DelDOT also encounters problems in "Sample Management". There are small sections within the Volume Group Universe with section lengths under 0.20 miles. These sections should be ignored by the HPMS software. DelDOT puts a lot of effort into collecting data from numerous small sections to avoid errors. Because the software fails to ignore very small sections, it is doubtful if these extra efforts are worthwhile. After the compilation of HPMS data, a field review is made before those data are made final.

Some small sections in the Central Business District and around the beach area are deleted. In the past, these samples generated the error, "Unusually High Number of Intersections (> 25 per mile)".

PSR values for some of the HPMS sample sections with pavement improvement in 2008 were modified and adjusted using engineering judgment. For 2009, the data has been collected but not reported at the time of this submission.

We have not attempted to override the HPMS software capacity. The HPMS universe requirements are only for through lanes. In reality, some HPMS sections function as through lanes while providing local access.

#### **NAAQS Non-attainment Areas**

The following is a list of NAAQS non-attainment areas in the State. The list also shows urbanized areas within each NAAQS non-attainment area.

All three counties are declared as NAAQS non-attainment areas.

| <u>County</u>                        | <u>Urbanized Area</u> |
|--------------------------------------|-----------------------|
| 1. Kent County (Nonattainment)       | Dover                 |
| 2. New Castle County (Nonattainment) | Philadelphia          |
| 3. Sussex County (Nonattainment)     | Salisbury             |

#### **List of Standard Sample Panel Groupings:**

- Not applicable in Delaware

The statistical information was derived from various computer files, such as the 2008 HPMS Universe/Sample database, the Delaware Road Inventory, and the traffic data files.

## **TRUTH- IN- DATA**

During 2009, there were 61 ATR stations, 5 toll sites for collecting traffic data, along with short-term counts taken at 200 locations using portable recorders. With the exception of the permanent ATR located at DE 896, north of the Summit Bridge, all other locations met the 200-day threshold required for developing accurate Annual Average Daily Vehicle (AADT) counts. Reconstruction, of the Summit Bridge for most of the year, was the reason for not meeting the 200-day threshold at this location.

## **Immigrants in Poultry Industry**

Delaware is also known as The First State, The Diamond State, Blue Hen State, and Small Wonder.

The state bird is Blue Hen. Delaware was ranked 9<sup>th</sup> among the states in poultry production at 1,578,900,000 pounds in 2008. Also, Delaware produced 242,900,000 broilers in 2008, and ranked 10th among all states in the number of broilers produced. In 2008, the broiler production in Delaware was valued at \$773 million. According to the 2007 U.S. Census of Agriculture, Sussex County in Delaware ranked first among America's counties in broiler chicken production. (Source: [Delmarva Poultry Industry, Inc.](#))

Most of the new immigrant workers in Delaware poultry industry are Hispanic, low wage earners who do not have the right to vote in this country. When the consumers order “Dollar Menu Meal” at some fast food restaurants, they seldom think about the low wage workers who make significant contribution in the preparation of this thrifty meal for them.

Nearly all of the poultry farms are located on local roads, which are not on the Federal –Aid system. Most of the poultry farm workers live in small communities with population below 500 near poultry farms. The average salary of poultry farm workers is very close to the minimum required by law. In fact, the elected officials are hard-pressed to allocate state revenues to assist low income poultry workers with no voting power.

In order to assimilate the Non- English speaking residents, the Delaware State Board of Education offers a special program, called [English Language Learners \(ELL\)](#). The enrollment in this program amounted to 5.4% of the total Delaware School enrollment in 2009.

[Arizona Immigration Law SB1070](#) is a hot topic these days. Should similar legislation be implemented in Delaware, there is a potential loss of three quarter of a billion dollars in the poultry sector alone.

The new change in immigration laws will not only affect Delaware’s economy, but it will also require a greater financial commitment toward educational, health and other social benefits to the immigrants.

## **HPMS Reassessment 2010+ and DelDOT**



There was some discussion to add new data items and a new data model based on GIS. With the increased need for more and accurate HPMS data, DelDOT may have difficulties in meeting the new requirements. Small states like Delaware lack adequate resources for data collection, analysis, and compilation. The existing manpower of the Planning unit of DelDOT is inadequate to inspect 620 intersections on an annual basis in Delaware. DelDOT retains consultants for the collection of pavement data including PSR and IRI. DelDOT also retains a consultant for its traffic count program and compilation of traffic data. Moreover, there is no field crew in DelDOT Planning to verify some of the HPMS data.

### **HPMS Statistical Data**

The HPMS data supports many types of analyses that are used by various administrative staff, and are reviewed by elected officials. Besides the federal submission of this report, the HPMS data is widely used by state, county, municipal and other local agencies in Delaware. Roadway mileage, DVMT, and similar data are used by DNREC and the MPO's for various tasks. Most of the data are available at [DelDOT HPMS web site](#). The HPMS data are available through DelDOT, which is the only official source of information.

The HPMS provides statistical tables with useful information for agency staff conducting transportation-related analyses. It also provides data to the general public, data for decision-making, and a quick reference of facts. In addition to the HPMS data, the following link also provides information on other [DelDOT Projects](#).

Presently, we are working on the "Delaware Highway Statistics Booklet" which will contain historical data for the years 2001-2009, and will be updated annually. For those who need to perform micro-analysis, the HPMS database is available from the HPMS coordinator.

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### **Personal Remarks**

For DelDOT, the process of data compilation is a true team effort, because unlike other states, DelDOT does not have a separate office of statistics or a field crew to conduct HPMS sample inspections. The data is collected from various sections of DelDOT. Suggestions provided by teammates are included in this report. This is truly a team effort by the HPMS hardhats and I would like to express my gratitude to all those who gave me the support to complete the HPMS report. Undoubtedly, the success of this HPMS report is a direct result of efforts made by these individuals.

May 26, 2010

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I would like to extend my sincere appreciation to Kris Riesenbergh, FHWA, DelMar Division Office, who has graciously assisted us in the preparation of the 2009 HPMS. Special thanks are due to Mr. Thomas Roff, of FHWA, Washington Headquarters, for their patience and constant guidance in completing this arduous task.

Today, Wednesday, May 26, 2010, the submission of 2009 HPMS final report is quite a relief.

Hopefully, during this time of bailouts, we can get through 2010 without a new stimulus package. Like other states, Delaware will manage. We will complete some of our highway projects. Others will be delayed until a source of future funds can be determined.

Sincerely,

S. Bhai  
Senior Transportation Planner

sb

Enclosure(s)

cc: Hassan Raza, Division Administrator, FHWA  
Kris Riesenbergh, FHWA, DelMar Division Office  
Ralph Reeb, Director of Planning, DelDOT  
Tyrone Crittenden, Program Manager, DelDOT